JVC

SERVICE MANUAL

DV VIDEO CASSETTE RECORDER

BR-DV3000U/E

DV Mini DV

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

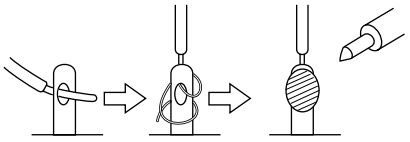


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

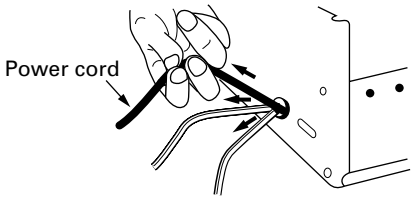


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

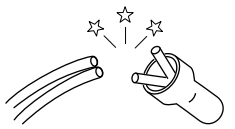


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

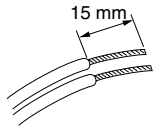


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

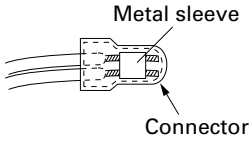


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

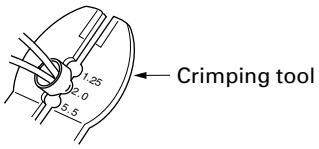


Fig.6

(5) Check the four points noted in Fig.7.

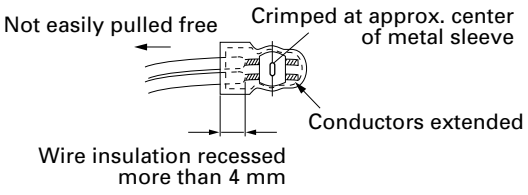

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

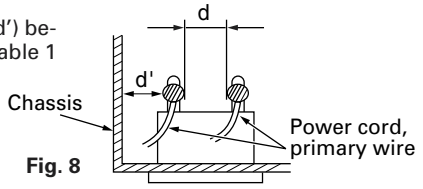


Fig. 8

4. Leakage current test
Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
Measuring Method : (Power ON)
Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

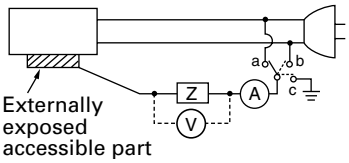


Fig. 9

5. Grounding (Class Ⅰ model only)
Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
Measuring Method:
Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

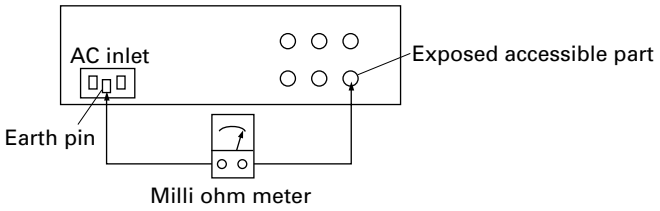


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

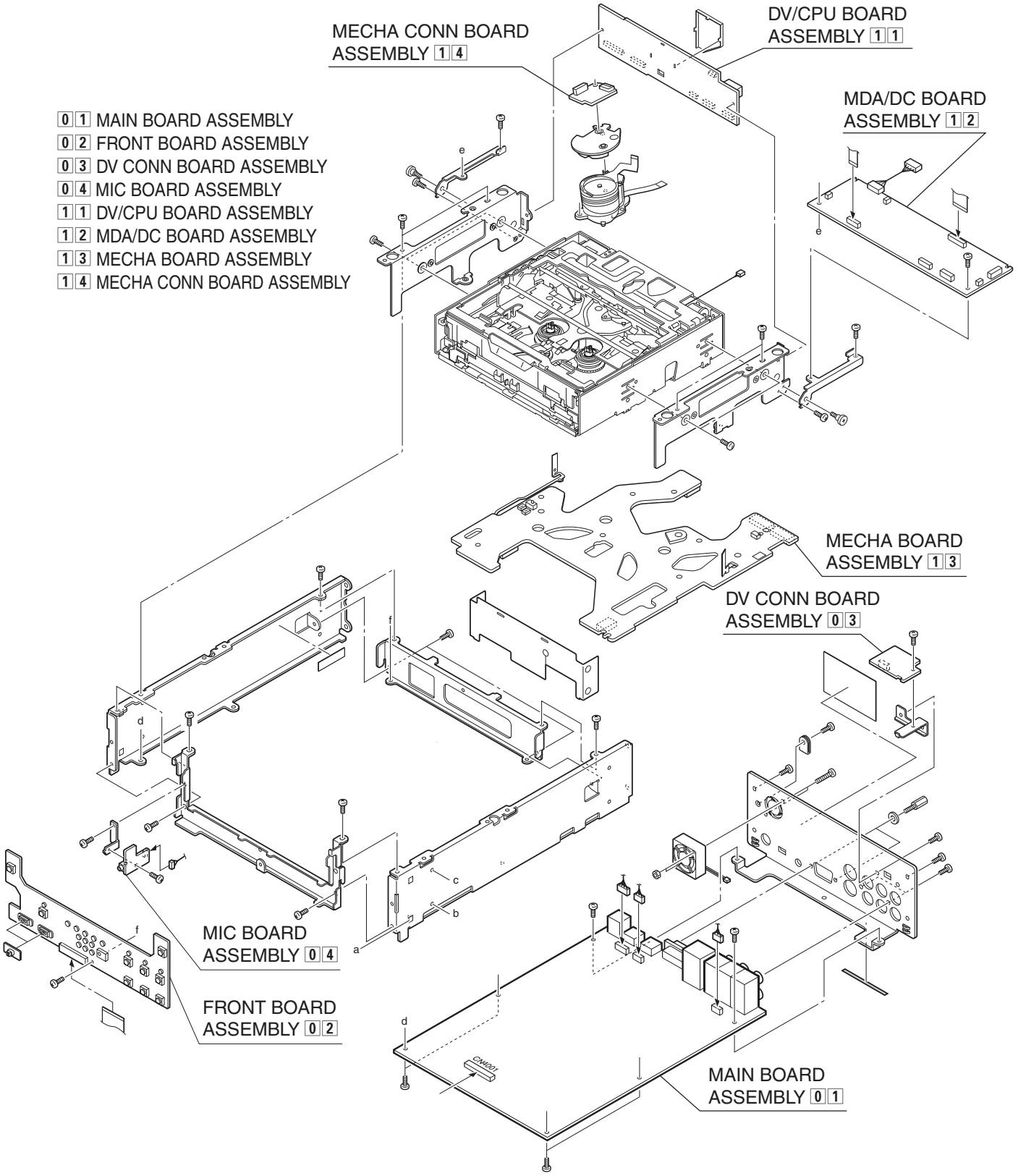
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
SERVICE CAUTIONS AND DISASSEMBLY

1.1 CONSTRUCTION OF THE MAIN BOARD


0 1 MAIN BOARD ASSEMBLY
0 2 FRONT BOARD ASSEMBLY
0 3 DV CONN BOARD ASSEMBLY
0 4 MIC BOARD ASSEMBLY
1 1 DV/CPU BOARD ASSEMBLY
1 2 MDA/DC BOARD ASSEMBLY
1 3 MECHA BOARD ASSEMBLY
1 4 MECHA CONN BOARD ASSEMBLY
MECHA CONN BOARD ASSEMBLY 1 4
DV/CPU BOARD ASSEMBLY 1 1
MDA/DC BOARD ASSEMBLY 1 2
MECHA BOARD ASSEMBLY 1 3
DV CONN BOARD ASSEMBLY 0 3
MIC BOARD ASSEMBLY 0 4
FRONT BOARD ASSEMBLY 0 2
MAIN BOARD ASSEMBLY 0 1
CN4001
a
b
c
d
e
f

1.2 HOW TO REMOVE THE OUTER COVER

1.2.1 Top cover

(1) Remove the four screws ①.
(2) Remove the top cover while lifting the rear part of it.

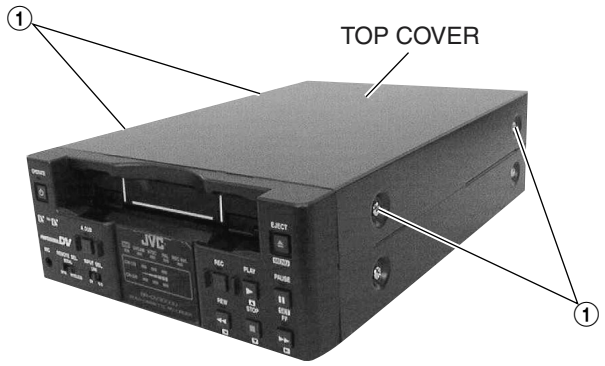


Fig. 1.2.1

1.2.2 Bottom cover

(1) Remove the four screws ②.
(2) Remove the bottom cover while lifting the rear part of it.

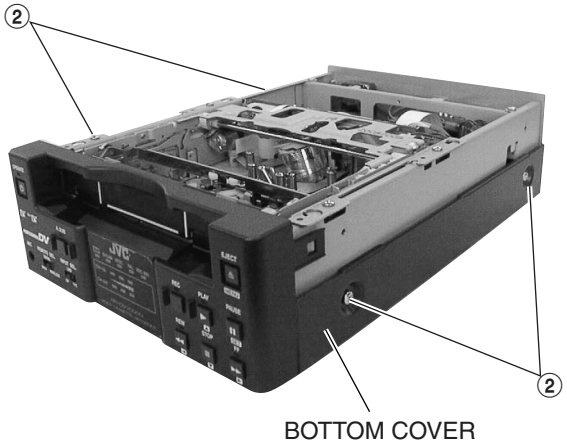


Fig. 1.2.2

1.2.3 Front panel

(1) Remove the top and bottom covers
(2) Remove the front panel while releasing the four hooks ①.

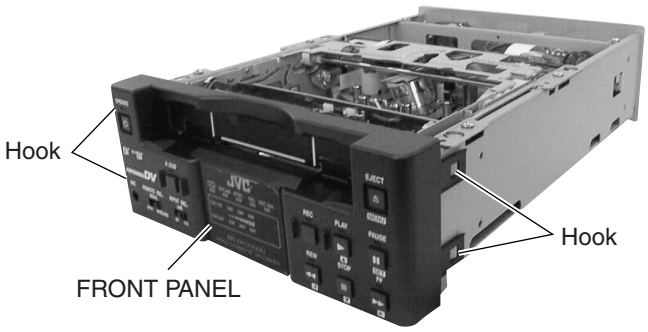


Fig.1.2.3

1.3 HOW TO REPLACE THE FUSE

(1) Unplug the DC power cable before replace the fuse.
(2) Remove the top cover.
(3) Find the fuse F1 on the MDA/DC board.

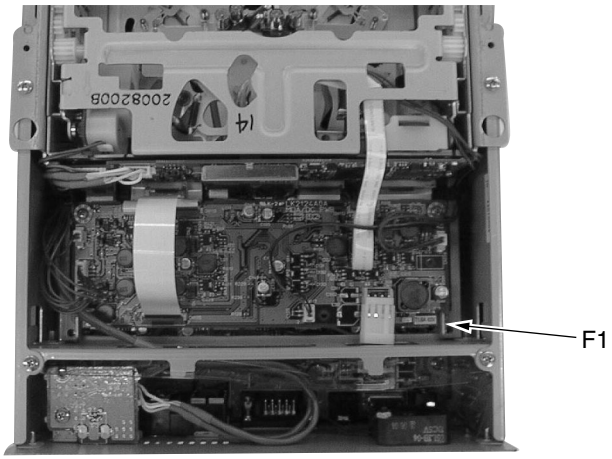


Fig. 1.3.1

CAUTION

- Before replacing the fuse, investigate and identify the cause of the blow out to prevent further damage.
- The fuse is an important item for safety. Please be sure to replace it with a fuse that has the specified parts numbers.

1.4 HOW TO EXAMINE THE BOARDS

1.4.1 MAIN board assembly

(1) Remove the bottom cover to examine the B-side of the main board.

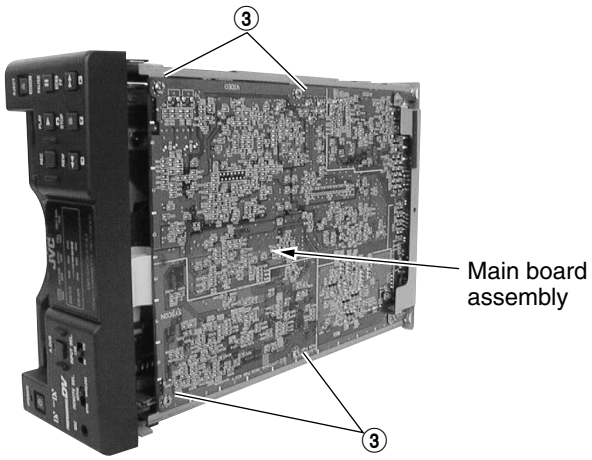


Fig. 1.4.1 (1)

(2) Remove the four screws ③ to examine the A-side.
(3) Remove the two screws ④ on the rear cover.
(4) Pull down the main board as shown in fig. 1.4.1 (3).

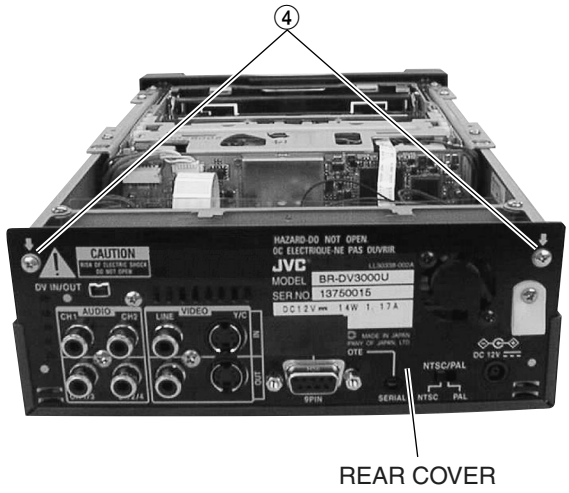


Fig. 1.4.1 (2)

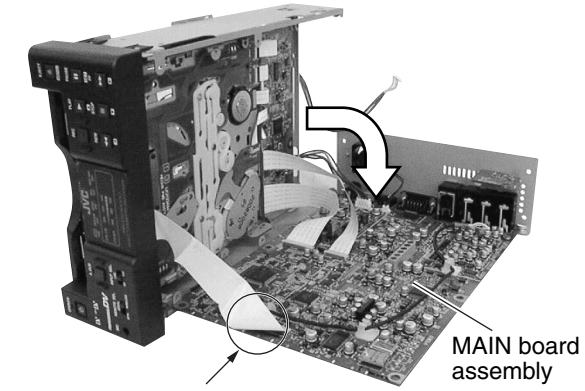


Fig. 1.4.1 (3)

1.4.2 MDA/DC board assembly

(1) Remove the top cover to examine the A-side.
(2) To examine the B-side, pull down the main board as shown in Fig. 1.4.2 (2).

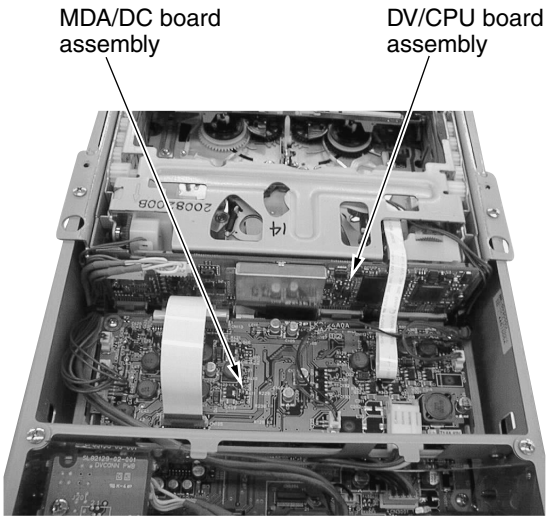


Fig. 1.4.2 (1)

Fig. 1.4.2 (2)

1.4.3 DV/CPU board assembly

(1) Remove the top cover as shown in Fig. 1.4.2 (1) to examine the DV/CPU board.

1.4.4 FRONT board assembly

(1) Remove the front panel to examine the front board.
(2) Remove the screw ⑤, and pull the board down to examine the B-side.

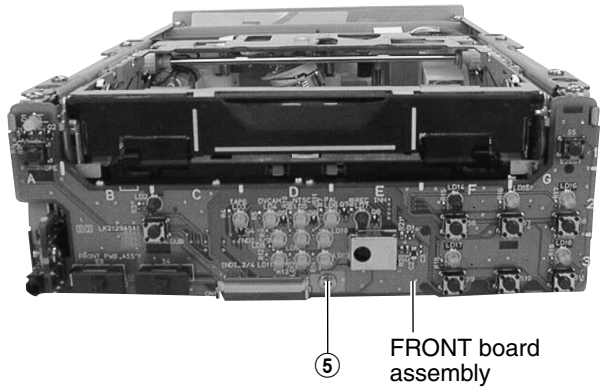


Fig. 1.4.4

1.5 HOW TO REMOVE THE MECHANISM UNIT

(1) Remove the four screws ⑥.
(2) Remove the front panel.
(3) Remove the CN111 connector on the MDA/DC board.
(4) Remove the wire that are attached to the DV CONN board.

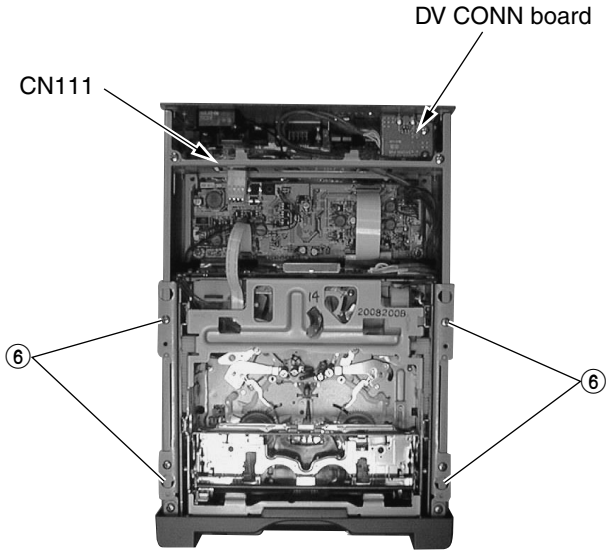


Fig. 1.5.1

(5) Pull up the mechanism unit.
(6) Remove CN4002 and CN4003 (FFC cables connected to the main board).

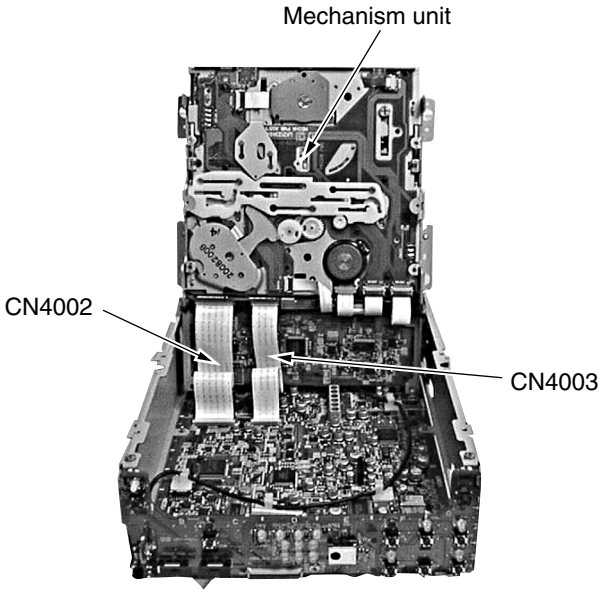


Fig. 1.5.2

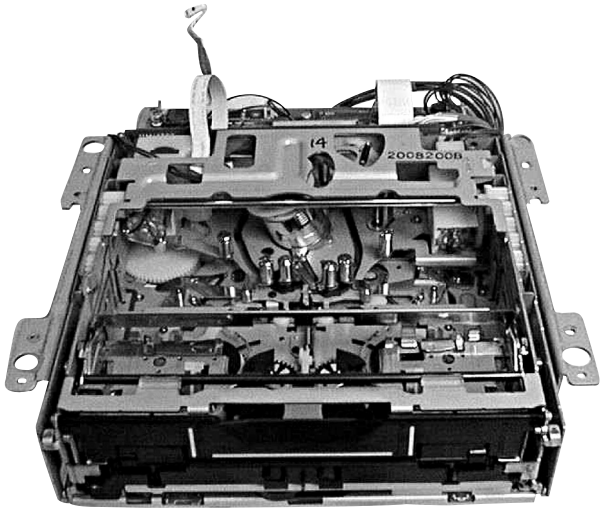


Fig. 1.5.3

1.6 HOW TO REMOVE THE MECHANISM ASSEMBLY

To remove only the mechanism assembly from the mechanism unit.

(1) Remove the shield case on the DV/CPU board and remove the CN107 FPC wire from the drum assembly.

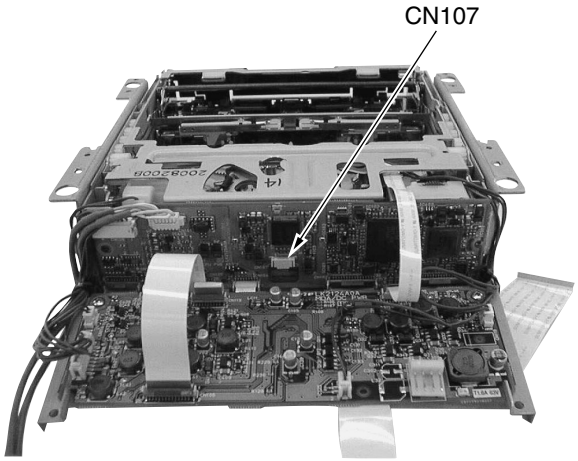


Fig. 1.6.1

(2) Remove the FFC wires that connects the mechanism board, which is mounted on the backs of the mechanism assembly, MDA/DC board, and the DV/CPU board.
(3) Remove the four screws ⑦ on the side.
(4) Remove the mechanism assembly as shown in Fig. 1.6.3.

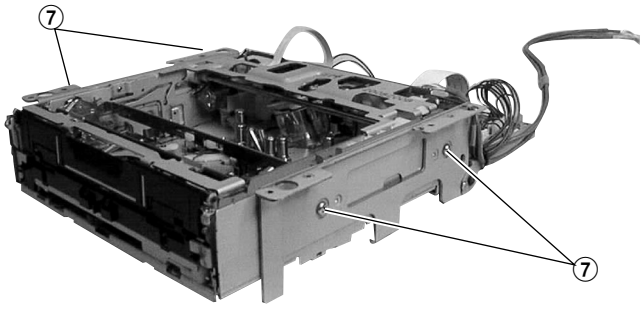


Fig. 1.6.2

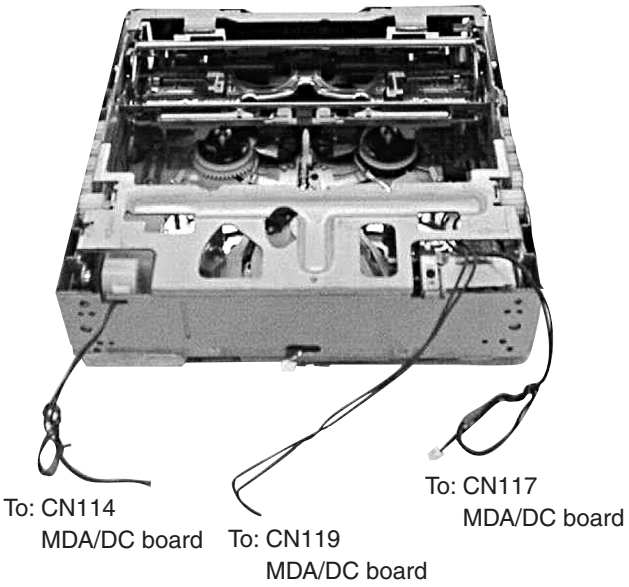


Fig. 1.6.3 Mechanism assembly

For instructions on disassembling each part of the mechanism assembly, please refer to the Section 2.

1.7 HOW TO TAKE OUT THE CASSETTE TAPE IN CASE OF EMERGENCY

An emergency system on this unit enables the cassette tape to be taken out manually.
When a cassette tape is stuck, take it out as described below.

Procedure

1. Gear Ⓐ : Emergency gear for MODE MOTOR
2. Gear Ⓑ : Emergency gear for REEL MOTOR
3. Gear Ⓒ : Emergency gear for HOUSING MOTOR

(1) In order to turn the mode motor, turn the gear Ⓐ (red color) in the direction of the arrow. While turning the gear also push it in to drive loading / unloading.

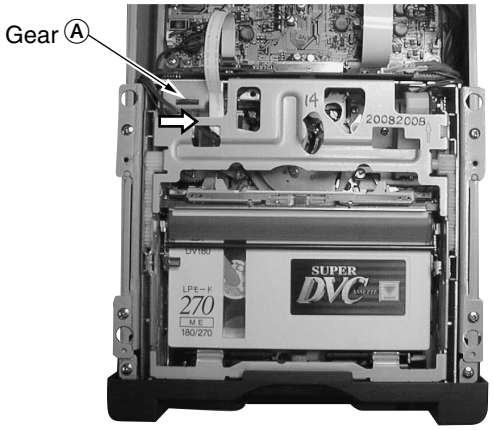


Fig. 1.7.1

(2) To wind the tape, when the tape is loosened a little, put a screw driver in the emergency gear Ⓑ, which drives the reel. (The drive direction does not matter.)

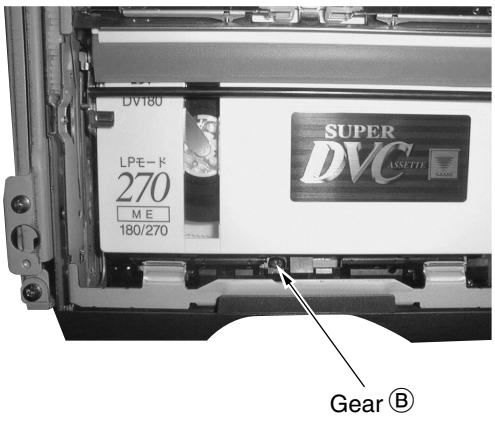


Fig. 1.7.2

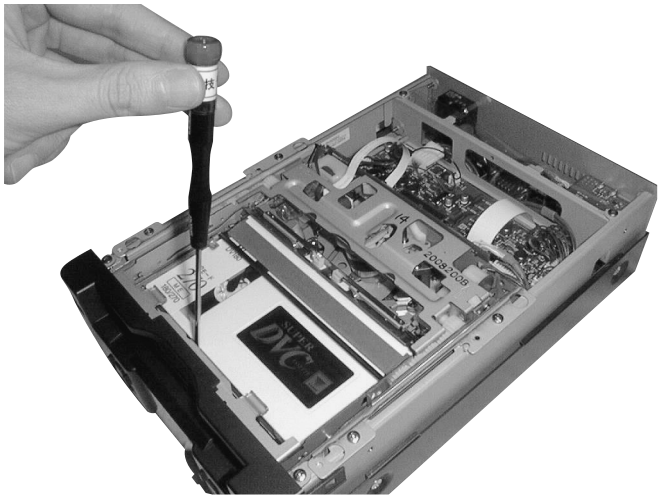


Fig. 1.7.3

(3) Repeat steps (1) and (2) alternately and little by little until the tape is wound completely into the cassette.
(4) Confirm that the tape is completely wound. Then, turn the gear Ⓒ (red color) in the direction of the arrow to eject the cassette housing. Take the cassette out when it comes out of the loading slot.

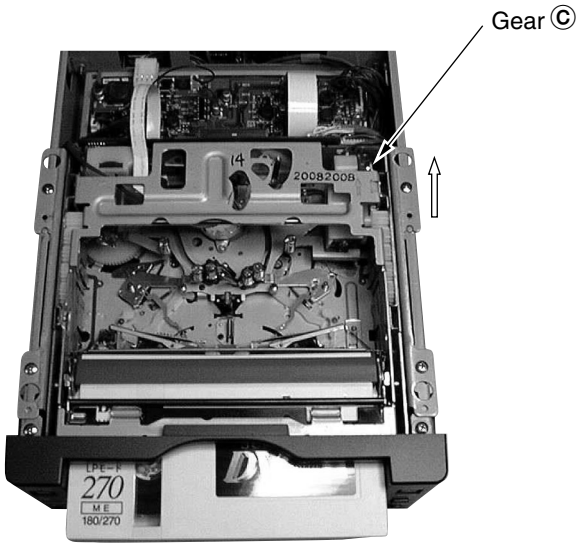


Fig. 1.7.4

1.8 SERVICE MENU

1.8.1 Usage procedure

(1) How to display the Service Menu

In no cassette condition, by pressing the MENU button for 2 seconds or longer while keeping either the STOP or PLAY button pressed, the first tier of the Service Menu will be displayed on the video monitor. As shown in Table 1.8.1, the Service Menu content that is displayed will differ depending on which buttons you press together simultaneously. (See Fig.8.1.1(2) to Fig.8.1.1(4)) (NOTE)

Only when displaying VTR 3 MENU, it is necessary to keep the PLAY + STOP buttons pressed while turning OPERATE ON. After that, press the MENU button for 2 seconds.

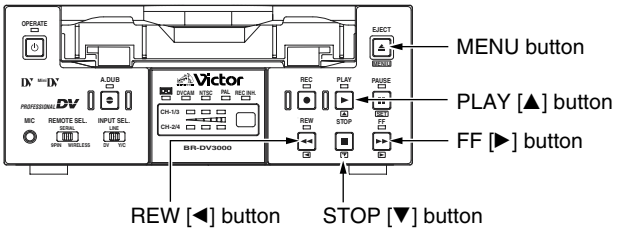


Fig. 1.8.1 (1) Front Panel

Item	Displayed Content	Activation Method		
		STOP	PLAY	PLAY +STOP
VTR1 MENU	VCR 1 Menu	○	○	○
VTR2 MENU	VCR 2 Menu	–	○	○
VTR3 MENU	VCR 3 Menu	–	–	○ (see note)
DIP SW	DIP SW Menu	–	○	○
HOUR METER	Hour Meter	–	○	○
ERROR HISTORY	Warning History	–	○	○
OTHERS	MENU SAVE etc.	–	○	○
CPU VERSION	CPU Version	○	–	–

Table 1.8.1 Service Menu First Tier List

(2) How to operate the Menu

① Press the ▲ or ▼ button on the front panel to move the cursor to the mode you want to change.
② Press the [SET] (or ▶ button) to select the item.
③ Press the ▲ or ▼ button to change the parameter.
④ When finished making the change, press the [SET] button. The parameter stops blinking when the change has been confirmed. (Returning using the ◀ button or [MENU] button causes the setting to revert to the status prior to the change.)
⑤ When all settings are completed, move the cursor to "PAGE BACK" and press the [SET] button to return to the MENU screen.

* If the ◀ button is pressed when the parameter is not blinking, it returns to the main screen.
* If the [MENU] button is pressed, it returns to the normal screen.

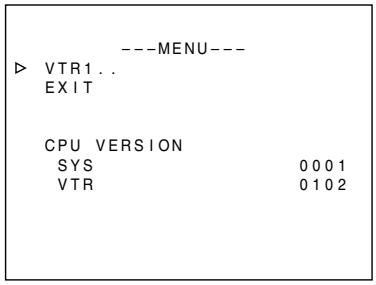


Fig. 8.1.1(2) Menu Screen (with STOP pressed simultaneously)

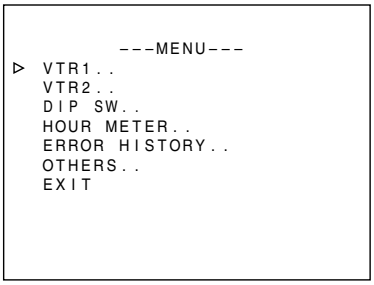


Fig. 8.1.1(3) Menu Screen (with PLAY pressed simultaneously)

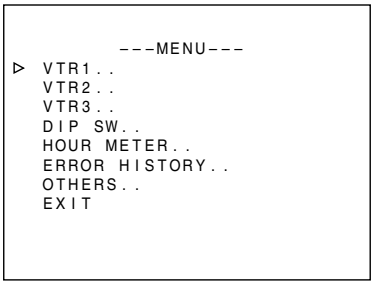


Fig. 8.1.1(4) Menu Screen (with PLAY + STOP pressed simultaneously)

1.8.2 VTR 1 menu

Item	Parameter	
REC REPEAT	[OFF]	No repeat recording
	2	Repeat recording 2 times
	12	Repeat recording 12 times
	ON	Full repeat recording
FOOT SW LEVEL	LEVEL1	Possible from any mode
	[LEVEL2]	Possible only from STOP or REC PAUSE mode
MIC REC CH	NORMAL	Record input signal from connected MIC only on CH2 (CH4 : during A.DUB mode)
	CH1-MIX	[No recording mode]. Do not record input signal from connected MIC on CH1/CH2 (No recording on CH3+4 during A.DUB)
	[CH2-MIX]	Record input signal from connected MIC on CH1/CH2 (CH3/CH4 during A.DUB)
ID 422 (H)	[F0]	High Device ID (00~FF). First bit is fixed at PAL1, NTSC0
ID 422 (L)	[4E]	Low Device ID (00~FF)
FF/REW SPEED	x50	Maximum FF/REW speed is regulated to x50
	x75	Maximum FF/REW speed is regulated to x75
	[x100]	Maximum FF/REW speed is regulated to x100
	MAX	No maximum FF/REW speed regulation
DV DF MASK (PAL only)	[OFF]	"1" is recorded as per format
	ON	"0" is always recorded

□ is default setting when shipped from factory.

Table 1.8.2 VTR 1 Menu Setting Item List

1.8.3 VTR 2 menu

Item	Parameter	
LONG PAUSE	OFF	Disables long pause function
	[ON]	Enables long pause function
REC MODE	[SP]	SP recording
	LP	LP recording (Do not change since performance cannot be guaranteed)
LP WARNING	OFF	LP INH not displayed (Enables playback with LP mode) (Do not change since performance cannot be guaranteed)
	[ON]	LP INH displayed (Disables playback with LP mode)
TEST SIGNAL	[OFF]	Output color bars only. Do not output any other TEST signals.
	ON	Use BARS button of a attached wireless controller reception to trigger output TEST signal, rotating in this order: Color bars ⇨ Color bars (rotate per track) ⇨ Grayscale ⇨ Grayscale (rotate per track) ⇨ Multi burst (Y signal only) ⇨ Multi burst (Y and C signals) ⇨ 100% white ⇨ Red ⇨ Black burst
TEMP THRESHOLD	[220]	Threshold of rising temperature warning display, 00~255 (220 [DCh] = internal temperature approx. 60°C). Refer to item "TEMP" in table 1.8.7 (1)
BATT. SHUT DOWN	[10.5]	Voltage value to carry out power OFF operation (Set at OFF, 10.0~12.0 in increments of 0.1)
BATT. ALARM	[11.0]	Voltage value to trigger display of battery alarm warning (Set at 10.0~12.0 in increments of 0.1)

□ is default setting when shipped from factory.

Table 1.8.3 VTR 2 Menu Setting Item List

1.8.4 VTR 3 menu

Changing of settings is prohibited.

Item	Parameter
RESERVED	[0] Standard setting

□ is default setting when shipped from factory

Table 1.8.4 VTR 3 Menu Setting Item List

1.8.5 DIP switch menu

Sets the DIP SW. (All status are set to "OFF" or "0" when shipped.)

Item	Parameter	Default setting at factory
DIP SW 1/3		
DIP SW – 0	1: Displays error rate monitor and CPU port information	0
DIP SW – 1	ON: Disables warning detection	OFF
DIP SW – 2	Change prohibited	OFF
DIP SW – 3	ON: Disables DEW warning	OFF
DIP SW – 4	Change prohibited	OFF
DIP SW – 5	Change prohibited	OFF
DIP SW – 6	Change prohibited	0
DIP SW – 7	Change prohibited	OFF
DIP SW 2/3		
DIP SW – 8	Change prohibited	OFF
DIP SW – 9	Change prohibited	OFF
DIP SW – 10	ON: Displays error rate solely for audio block on the error rate monitor screen	OFF
DIP SW – 11	Change prohibited	OFF
DIP SW – 12	Change prohibited	OFF
DIP SW – 13	Change prohibited	OFF
DIP SW – 14	Change prohibited	OFF
DIP SW – 15	Change prohibited	OFF
DIP SW 3/3		
DIP SW – 16	Change prohibited	OFF
DIP SW – 17	Change prohibited	OFF
DIP SW – 18	Change prohibited	OFF
DIP SW – 19	Change prohibited	OFF
DIP SW – 20	Change prohibited	OFF
DIP SW – 21	Change prohibited	OFF
DIP SW – 22	Change prohibited	OFF
DIP SW – 23	Change prohibited	OFF

□ is default setting when shipped from factory

Table 1.8.5 DIP SW Menu Setting Item List

Error Rate Monitor

By setting DIP SW-0 to "1", the error rate value is displayed in position [15] on the monitor screen.
The error rate value is always Viterbi ON mode, with CH-1 shown in the upper row, and CH-2 shown in the lower row and total AUDIO/VIDEO.
When the error rate increases, a warning message "HEAD CLEANING REQUIRED" is displayed. The detection threshold for display is when the error rate value is over 4,500 (one-channel AV total) for 7 seconds consecutively.

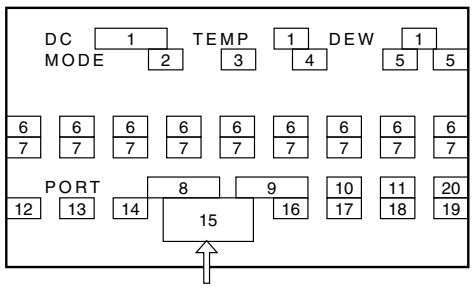


Fig.1.8.5 DIP SW-0 Display Screen

1.8.6 HOUR METER menu

Displays and resets the various types of hour meters.
When the parameter is set to "CLEAR" and the SET button is pressed, the hour meter is cleared.

Item	Parameter		Time duration/number of times display is possible
DRUM	Time display H	Displays the drum hour meter (for drum maintenance)	000000~999999 Time duration
	CLEAR	Resets the drum hour meter	
TOTAL DRUM	Time display H	Displays the total drum hour meter	000000~999999 Time duration
	CLEAR	Resets the total drum hour meter (Does not work unless the special setting)	
POWER	Time display H	Displays the power hour meter	000000~999999 Time duration
	CLEAR	Resets the power hour meter	
CAPSTAN	Time display H	Displays the capstan hour meter	000000~999999 Time duration
	CLEAR	Resets the capstan hour meter	
REEL FWD	Time display H	Displays the reel forward direction running hour meter	000000~999999 Time duration
	CLEAR	Resets the reel forward direction running hour meter	
REEL REV	Time display H	Displays the reel reverse direction running hour meter	000000~999999 Time duration
	CLEAR	Resets the reel reverse direction running hour meter	
LOADING	Number display	Displays the number of times a tape was loaded	000000~999999 Number of times (events)
	CLEAR	Resets the number of times a tape was loaded	
EJECT (MINI)	Number display	Displays the number of times a mini cassette was ejected	000000~999999 Number of times (events)
	CLEAR	Resets the number of times a mini cassette was ejected	
EJECT (STD)	Number display	Displays the number of times a standard cassette was ejected	000000~999999 Number of times (events)
	CLEAR	Resets the number of times a standard cassette was ejected	
FWD/REV	Number display	Displays the number of FWD/REV switchings	000000~999999 Number of times (events)
	CLEAR	Resets the number of FWD/REV switchings	
FF/REW	Number display	Displays the number of FF/REW switchings	000000~999999 Number of times (events)
	CLEAR	Resets the number of FF/REW switchings	
CLEANER	Number display	Displays the number of times the cleaner was activated	000000~999999 Number of times (events)
	CLEAR	Resets the number of times the cleaner was activated	

☐ is default setting when shipped from factory

Table 1.8.6 HOUR METER Menu Setting Item List

1.8.7 ERROR HISTORY menu

It can display 4 errors that have occurred in the past.
Initially, when there is no error history in the memory, the first error to occur will be logged in the first position (HISTORY-1). The second and third errors to occur will be logged in (HISTORY-2) and (HISTORY-3). All subsequent errors will be overwritten in (HISTORY-4).
The fourth and subsequent errors are set to overwrite in order to prevent the user from repeatedly attempting to use a malfunctioning unit and thereby erasing any record of the initial cause error. Be sure to clear the error history before returning a repaired unit to the customer.
When resetting ERROR HISTORY, set the parameter for "CLEAR" to "EXECUTE", and press the [SET] button.

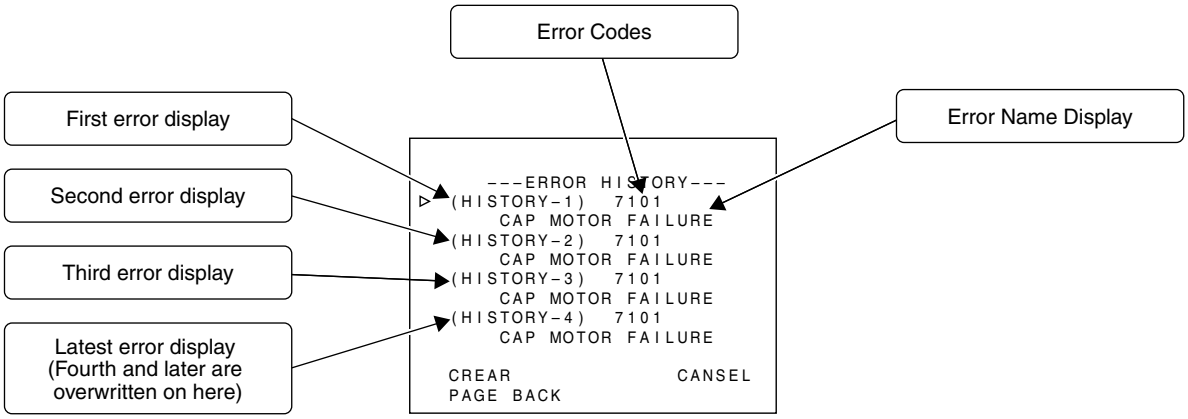


Fig. 1.8.7 (1) ERROR HISTORY

(1) MECHANISM INFO (Detailed information when error occurs)
Move the cursor to the error code on the "ERROR HISTORY" screen, and press the [SET] button (or ▶ button) to display the MECHANISM INFO screen as it was at the time of the error, you can check the details of the malfunction.

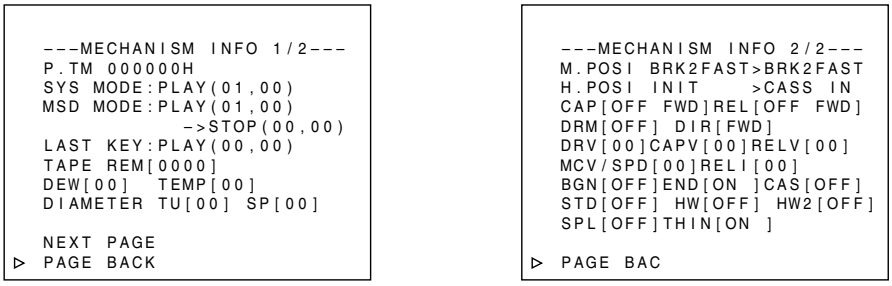


Fig. 1.8.7 (2) MECHANISM INFO Display Screen

Item	Content	Displayed Content
P.TM	POWER HOUR METER	Power hour meter is display.
SYS MODE	SYSCON CPU mode when error occurred PLAY (03, 00) MODE DATA | Parameter	SFF/SREW parameter is speed display. (Refer to Fig. 1.8.7 (2) Speed parameter) Parameters of other modes are irrelevant. EJECT (01) : Eject ADUB (0B) : Audio Dub STOP (02) : Stop ADBP (0C) : Audio Dub Pause PLAY (03) : Play REC (13) : Rec STL (04) : Still RECP (14) : Rec Pause FF (05) : FF DVRC (15) : DV Rec REW (06) : Rew DVRP (16) : DV Rec Pause SFF (07) : Search Fwd POFF (1A) : Power Off SREW (08) : Search Rev NDEF (1F) : During initial operation
MSD MODE	MSD CPU mode and target mode when error occurred PLAY (01, 00) MODE DATA | Parameter	
LAST KEY	Final Key code when error occurred PLAY (E7, 01) MODE DATA | Parameter	SFF/SREW parameter is speed display (See Fig. 1.8.7(2)) Other parameters are 01: ON, 00: OFF REC (E0) : Rec SFF (EB) : Search Fwd RECP (E1) : Rec Pause SREW (EC) : Search Rev DVRP (E2) : DV Rec Pause STOP (F0) : Stop ADUB (E5) : Audio Dub EJECT (F1) : Eject ADBP (E6) : Audio Dub Pause HWUP (F2) : Housing Up PLAY (E7) : Play HWDN (F3) : Housing Down STL (E8) : Still POFF (F4) : Power Off FF (E9) : FF DVRC (F5) : DV Rec REW (EA) : Rew PON (FA) : Power on
TAPE REM	TAPE REMAIN	Displays tape remaining in minutes ([FFFF] : not detected)
DEW	DEW sensor A/D intake value	DEW detects (at low temp. [13], at normal temp [CD]) DEW off (at low temp. [12], at normal temp [99])
TEMP	Temperature sensor A/D intake value The value "49" [5°C] is threshold of detecting low temperture. The value "DC" [60°C] is the threshold of displaying "OVER HEATING" message.	Temperature is displayed in hexadecimal value. -10°C ➡ [22] 20°C ➡ [7C] 50°C ➡ [CC] - 5°C ➡ [2D] 25°C ➡ [8C] 55°C ➡ [D4] 0°C ➡ [3A] 30°C ➡ [9C] 60°C ➡ [DC] 5°C ➡ [49] 35°C ➡ [AA] 10°C ➡ [59] 40°C ➡ [B7] 65°C ➡ [E1] 15°C ➡ [6A] 45°C ➡ [C2] 70°C ➡ [E6]
DIAMETER	Displays wound tape diameter (Take-up, Supply)	[00]—[FF] : 0mm-82mm (Diameter) ([00] is non-detected)
M. POSI	Mechanism position and target mechanism position	[2ULD], [ULD2BRK], [BRK], [BRK2FAST], [FAST], [FAST2STP], [STP], [STP2SRH], [SRH], [SRH2], [INIT]("2" is the meaning of "TO". It means transition. Refer to section 2, Mechanism Timing Chart.)
H. POSI	Housing position and target housing position	[EJECT], [EJECT2IN], [CASS IN], [RELEASE](Release the SUP reel lock.) [INIT](For the intake and eject operation, refer to section 8.2.3.)
CAP	Capstan status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
REL	Reel status	[ON] : Rotate [FWD/REV]: Direction display [OFF] : Stop
DRM	Drum status	[ON] : Rotate [OFF] : Stop
DIR	Direction of tape running (Direction of target)	[FWD/REV] : Direction display
DRV	Drum control voltage	[00-FF] : 0—3V
CAPV	Capstan control voltage	[00-FF] : 0—3V
RELV	Reel control torque value	[00-FF] : 0—3A

<table>
<tr><th>Item</th><th>Content</th><th>Displayed Content</th></tr>
<tr><td>MCV/SPD</td><td>Loading/cassette housing control voltage (when error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FF] : 0—8V (Displays mode motor control voltage during error code 3xxx)
[00-FF] : 0-11V (Displays cassette motor control voltage during error code 4xxx)</td></tr>
<tr><td></td><td>Tape speed (When the code excepting error code 4xxx and error code 3xxx is displayed.)</td><td>[00-FA] : 0—25X (FF is displayed when the speed is faster than this.)
“Tape speed” is a function to convert the hexadecimal value into a decimal value, and no speed parameter of the tape.
(ex. FAh = 250 → The speed is 25.0X.)</td></tr>
<tr><td>RELI</td><td>Reel current (Cassette housing motor current during housing-related warning)</td><td>[00-FF] : 0—1.2A</td></tr>
<tr><td>BGN</td><td>Begin sensor</td><td>[ON] : Leader tape detected
[OFF] : Magnetic tape detected</td></tr>
<tr><td>END</td><td>End sensor</td><td>[ON] : Trailer tape detected
[OFF] : Magnetic tape detected</td></tr>
<tr><td>CAS</td><td>Cassette SW status</td><td>[OFF] : No cassette
[ON] : Cassette detected (STD/MINI)</td></tr>
<tr><td>STD</td><td>Standard cassette SW status</td><td>[OFF] : Mini cassette tape inserted
[ON] : STD cassette tape inserted</td></tr>
<tr><td>HW, HW2</td><td>Housing SW/Housing 2SW status</td><td>
<table>
<tr><th>HW SW</th><th>HW2 SW</th><th>Housing status</th></tr>
<tr><td>[OFF]</td><td>[ON]</td><td>–</td></tr>
<tr><td>[ON]</td><td>[OFF]</td><td>EJECT (Initial position)</td></tr>
<tr><td>[OFF]</td><td>[OFF]</td><td>Cassette intake</td></tr>
<tr><td>[ON]</td><td>[ON]</td><td>Ejecting Mini cassette</td></tr>
</table>
</td></tr>
<tr><td>SPL</td><td>SUP Lock SW status (during loading)</td><td>[ON] : Normal operation (TU side tape winding)
[OFF] : Lock release
(Tape begin detected, Supply side tape winding mode)</td></tr>
<tr><td>THIN</td><td>Thin tape detection</td><td>[ON] : THIN
[OFF] : NORMAL</td></tr>
</table>

Table 1.8.7 (1) MECHANISM INFO content

Parameter	Speed	Parameter	Speed
00	x 0	82	x 1.08
1F	x 0.03	83	x 1.11
40	x 0.10	84	x 1.12
53	x 0.20	85	x 1.16
61	x 0.30	91	x 2.00
6D	x 0.50	A9	x 5.00
7A	x 0.80	BD	x 9.00
7B	x 0.84	C0	x 10.0
7D	x 0.90	C4	x 12.0
7F	x 0.96	CC	x 15.0
80	x 1.00	D3	x 20.0
81	x 1.04		

Table 1.8.7 (2) Speed parameter

(2) Error code description

Error code	Display	Content of occurrence	Method of detection	Detected signal
0201	CONDENSATION ON DRUM	DEW detected	If DEW sensor detects condensation	IC302 (MSD) –detects voltage of pin 318
3200	LOADING FAILURE	Does not load	If mechanism position does not move in loading direction within 5 seconds	IC302-pin354 Rotary encoder output is detected
3300	UNLOADING FAILURE	Does not unload	If mechanism position does not move in unloading direction within 5 seconds	IC302-pin354 Rotary encoder output is detected
	No display	Does not intake	If intake is not completed within 5 seconds (Perform ejects without warning)	IC302 (MSD) –pin 84, CASSETTE SW is not detected within 5 seconds
4100	CASSETTE EJECT FAILURE	Does not eject	If eject is not completed within 5 seconds	IC302 (MSD) –pin 26, HOUSING SW is not detected within 5 seconds
5605	DEFECTIVE TAPE	Tape abnormality during intake	If begin and end sensor are ON after intake	IC302 (MSD) –pin 278, START sensor and pin 297, END sensor are both detected
5606	DEFECTIVE TAPE	Tape tear during unloading	If reel FG is excessive during unloading	IC302 (MSD) –pin 75, TU REEL FG is detected
5607	DEFECTIVE TAPE	Tape tear during loading	If reel FG is insufficient during loading	IC302 (MSD) –pin 75, TU REEL FG is detected
5608	DEFECTIVE TAPE	Tape tear on the loading side	If only supply side reel does not rotate during FWD/REV	IC302 (MSD) –pin 72, SUP REEL FG is not detected
5609	DEFECTIVE TAPE	Tape tear during slack takeup	If tape slack takeup is not completed within 10 seconds	IC302 (MSD) –pin 75, TU REEL FG and pin 72, SUP REEL FG are both detected
5702	TAPE END DET. ERROR	End sensor malfunction	If trailer tape sending is not completed within 3 seconds	IC302 (MSD) –pin 297, END sensor is detected for over 3 seconds
5802	TAPE BEGIN DET. ERROR	Begin sensor malfunction	If leader tape sending is not completed within 3 seconds	IC302 (MSD) –pin 278, START sensor is detected for over 3 seconds
7001	DRUM MOTOR FAILURE	Drum motor does not rotate	If drum motor does not rotate for over 4 seconds	IC302 (MSD) –pin 55, DRUM FG is not detected for over 4 seconds
7101	CAP MOTOR FAILURE	Capstan motor does not rotate	If capstan motor does not rotate for over 2 seconds	IC302 (MSD) –pin 56, CAP FG is not detected for over 2 seconds
7202	SUPPLY REEL FAILURE	SUP reel does not rotate	If SUP reel does not rotate for over 3 seconds	IC302 (MSD) –pin 72, SUP REEL FG is not detected for over 3 seconds
7203	SUPPLY REEL FAILURE	SUP side tape slack	If only SUP reel does not rotate during REV	IC302 (MSD) –pin 72, SUP REEL FG is not detected
7302	TAKE UP REEL FAILURE	TU reel does not rotate	If TU reel does not rotate for over 3 seconds	IC302 (MSD) –pin 75, TU REEL FG is not detected for over 3 seconds
7303	TAKE UP REEL FAILURE	TU side tape slack	If only TU reel does not rotate during FWD	IC302 (MSD) –pin 75, TU REEL FG is not detected
7305	TAKE UP REEL FAILURE	Tape slack during unloading	If TU reel FG is insufficient during unloading	IC302 (MSD) –pin 75, TU REEL sensor is detected
7401	REEL MOTOR FAILURE	Reel motor does not rotate	If reel motor does not rotate for more than 4 seconds during reel drive mode	IC302 (MSD) –pin 91, REEL FG is not detected for over 4 seconds

Table 1.8.7 (3) Error Code Contents

1.8.8 OTHERS menu

<table>
<tr><th>Item</th><th colspan="3">Parameter</th></tr>
<tr><td>MEMORY SW LOAD</td><td>OFF</td><td colspan="2">Standard setting</td></tr>
<tr><td></td><td>START</td><td colspan="2">Menu SW information is loaded from a store aria.</td></tr>
<tr><td>MEMORY SW SAVE</td><td>OFF</td><td colspan="2">Standard setting</td></tr>
<tr><td></td><td>START</td><td colspan="2">Menu SW information is saved to a store aria.</td></tr>
<tr><td>ALL RESET</td><td>CANCEL</td><td colspan="2">Standard setting</td></tr>
<tr><td></td><td>I,U,E,EC</td><td colspan="2">Resets all EEP-ROM data to default settings except adjustment data, hour meter data, and IEEE1394 ID data.
Default settings differ by market region.
I: for Japan, U: for USA, E: for EU, EC: for China</td></tr>
<tr><td>MEM.EDIT</td><td colspan="3">Contents of the EEP-ROM can be edited directly
ADR: Address (0-03FF) display
DATA: Display of data embedded in address shown by ADR

Operation procedure
1 Press the ▲ or ▼ button to move the cursor to MEM or EDIT.
② Press the ► button to make the ADR parameter blink.
③ Press the ▲ or ▼ button to select the ADR parameter you want to edit. (Pressing ▲ or ▼ while keeping the “A.DUB” button pressed will cause it to count up or down in increments of 10.)
④ Press the ► button to make the DATA parameter blink.
⑤ Press the ▲ or ▼ button to make changes in the DATA parameter.
⑥ Press the [SET] button and confirm the DATA parameter. (The parameter stops blinking)

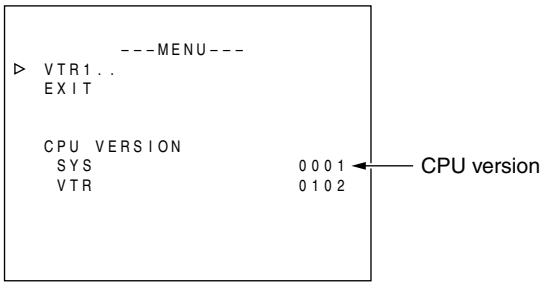
(NOTE)
The EEPROMs store important data for the system and careless rewriting may make normal operation of the system impossible. Do not use this function for purposes other than the IEEE1394 ID date that is described.</td></tr>
<tr><td>OPERATION CHECK</td><td>CANCEL</td><td colspan="2">Standard setting</td></tr>
<tr><td></td><td>EXECUTE</td><td colspan="2">Enters the OPERATION check mode. All LEDs turn on. By operating the relevant buttons and slide switches, the operation of the buttons and LEDs can be checked as shown in the following list.
To exit from this mode, turn OPERATE to OFF.
<table>
<tr><th>Button</th><th colspan="2">LED display contents</th></tr>
<tr><td>OPERATE</td><td colspan="2">Power ON/OFF SW</td></tr>
<tr><td>EJECT</td><td colspan="2">Cassette tape LED goes out</td></tr>
<tr><td>STOP</td><td colspan="2">All except OPERATE LED go out</td></tr>
<tr><td>FF</td><td colspan="2">FF LED goes out</td></tr>
<tr><td>PLAY</td><td colspan="2">PLAY LED goes out</td></tr>
<tr><td>REW</td><td colspan="2">REW LED goes out</td></tr>
<tr><td>PAUSE</td><td colspan="2">PAUSE LED goes out</td></tr>
<tr><td>REC</td><td colspan="2">REC LED goes out</td></tr>
<tr><td>A.DUB</td><td colspan="2">A.DUB LED goes out</td></tr>
<tr><td rowspan="3">INPUT SELECT</td><td>DV</td><td>Rch LED comes on, Lch LED comes on</td></tr>
<tr><td>LINE</td><td>Rch LED comes on, Lch LED goes out</td></tr>
<tr><td>Y/C</td><td>Rch LED goes out, Lch LED comes on</td></tr>
<tr><td rowspan="3">REMOTE/LOCAL</td><td>9PIN</td><td>DV CAM LED comes on, REC INH LED goes out</td></tr>
<tr><td>SERIAL</td><td>DV CAM LED goes out, REC INH LED comes on</td></tr>
<tr><td>WIRELESS</td><td>DV CAM LED comes on, REC INH LED comes on</td></tr>
<tr><td rowspan="2">NTSC/PAL(REAR)</td><td>NTSC</td><td>NTSC LED comes on, PAL LED goes out</td></tr>
<tr><td>PAL</td><td>NTSC LED goes out, PAL LED comes on</td></tr>
</table></td></tr>
<tr><td>REAR SER. SEL</td><td>SERIAL</td><td colspan="2">REAR terminal is used as the SERIAL REMOTE terminal.</td></tr>
<tr><td></td><td>TCCS</td><td colspan="2">REAR terminal is used as the TCCS terminal (factory use)
By pressing REC + ADB simultaneously while powering up, the forced TCCS mode is engaged.</td></tr>
</table>

□ is default setting when shipped from factory

Table 1.8.8 OTHERS Menu Setting Items List

1.8.9 CPU version menu

Displays version of SYSCON CPU and MSD (VCR) CPU.



Firmware version

SYSCON	PLSL1144-VX-XX
MSD (VTR)	PLSL1141-VX-XX

Fig. 1.8.9 CPU Version Display

1.8.10 EEP-ROMS

(1) EEP-ROMS and stored data

BR-DV3000 is equipped with two EEP-ROMS for the purpose of data stored, and their contents are as per the following list. When the circuit board or EEP-ROM is replaced, there will be no data in the EEP-ROM. When the unit is powered up, and the SYSCON CPU or MSD CPU recognizes that there is no data in the EEP-ROM, it automatically writes initial data into the EEP-ROM to initialize it. The memory data shown in Table 1.8.10 will all be reset back to default settings, so it will be necessary to perform necessary adjustments and settings again.

EEP-ROM	Circuit board name	Memory data content
IC301	DV/CPU circuit board (MSD CPU) MAIN circuit board	• Adjusted data (DVC section: Adjustment menu No. 100-121) • IEEE1394 ID data • HOUR METER data
IC2003	(SYSCON CPU)	• Adjusted data (VCR section: Adjustment menu No. 200-274) • User menu and Service menu settings data • ERROR HISTORY

Table 1.8.10 EEP-ROM Memory Data Content

(2) IEEE1394 ID setting method

IEEE1394 equipped units have an ID, as defined by the IEEE1394 standard, stored in the internal EEP-ROM (IC 301). At the time of production, the ID assigned for each individual unit are written into the EEP-ROM, and a sticker bearing the ID is affixed inside the unit. When the EEP-ROM (DV/CPU board assembly) or DV/CPU board assembly is replaced, the ID needs to be set again.

Procedure for setting IEEE1394 ID

The ID is an 8 digit, hexadecimal code, with 1 high Byte being the model code, and 3 low Bytes being individual to the unit. The model code is automatically initialized, so only the lower 3 Bytes of individual code need to be set manually. Go from Service Menu → OTHERS Menu → MEM. EDIT (Memory Edit) to select the address in the ID data section and make the setting directly. The 3 low Byte address is as follows. Make the setting while confirming the ID printed on the label (ID: 44xxxxxx) pasted on the inside of the BR-DV3000 (See Fig. 1.8.10).

IEEE1394 ID data : 44 xx xx xx (Indicates on the label of BR-DV3000 inside.)
⇩ ⇩ ⇩
Address data "391" "392" "393"

Setting procedure

(1) Press the ▲ or ▼ button to move the cursor to MEM. EDIT.
(2) Press the ▶ button to make the ADR parameter blink.
(3) Press the ▲ or ▼ button to select ADR parameter "391".
(4) Press the ▶ button to make the DATA parameter blink.
(5) Press the ▲ or ▼ button to set ADR = "391" for the ID.
(6) Press the [SET] button to confirm the DATA parameter.
(7) In the same manner, select ADR parameter "392" and "393" to set the ID data.

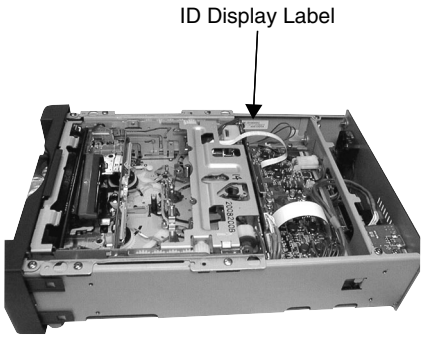


Fig. 1.8.10 ID Label Attachment Position

1.8.11 Real-time clock

The IC2002 (RS5C314) on the MAIN circuit board is a CMOS real-time clock IC that sends time/calendar data to the CPU via serial transmission. When power is not being supplied to the BT2001, there is a secondary battery (3V) to backup the IC2002. By charging for 4 hours, it provides 3 months of backup. When power is being supplied, AL3V is sent through D2002 to the IC2002 8pin, and through D2003 the BT2001 enters a state of being charged. When external power supply (AL3V) ceases, BT2001 is discharged through D2002 and the current is sent to the IC2002 8pin, resulting in a state of backup.

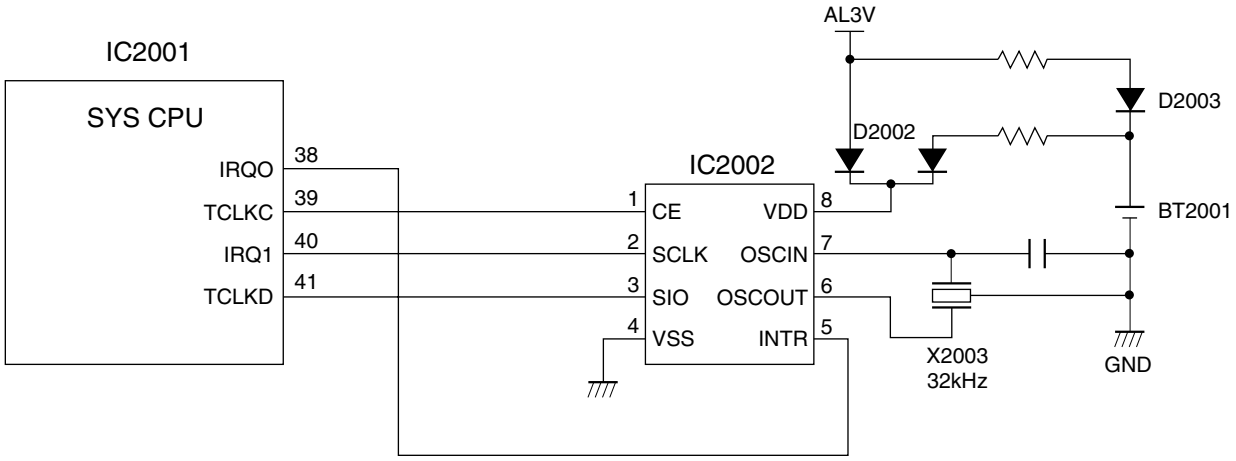


Fig. 1.8.11 Real-time Clock Circuit

SECTION 2
MECHANICAL ADJUSTMENTS

2.1 BEFORE ADJUSTMENTS

2.1.1 Precautions

1) Be sure to apply a screw securing torque when attaching a part.
   The securing torque should be 0.14 N/m (1.4 kgf/cm) unless otherwise specified.
2) Always unplug the power cord of the set before attaching, removing or soldering a part.
3) When unplugging a connector, do not pull the wire but grasp the connector body.
4) Do not make an adjustment or rotate a potentiometer blindly while the source of trouble is not identified.
5) Before adjusting electrical circuitry, be sure to wait for more than 10 minutes after turning the power on.

2.1.2 Measuring instruments required for adjustments

Instrument	Condition
Oscilloscope	Calibrated instrument with measuring bandwidth of 100 MHz or more.

Table 2-1-1

2.1.3 Equipment required for adjustments

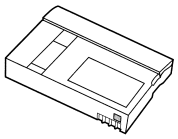
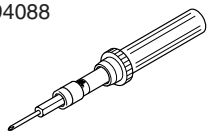
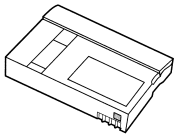
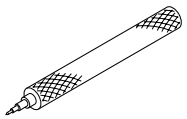
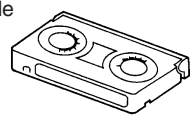
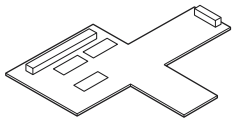
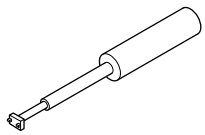
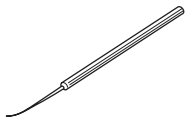
1	Alignment tape	5	Torque screwdriver
MC-1 (NTSC) MC-2 (PAL) 		YTU94088 	YTU94088-003 Replaceable bit (long type)
2	DV tape	6	Slit washer attaching tool
For use in self-recording/playback. (60 ME) (270 ME) 		YTU94121A 	
3	Cassette torque meter	7	REWRITE board (Connector board)
YTU94150A (or YTU94151A) for FWD mode KLJ0312 for REV mode 		CK453800B 	
4	Guide screwdriver	8	Chip IC replacement tool
YTU94085 		PTS40844-2 	

Table 2-1-2

2.2 DISASSEMBLY/ASSEMBLY OF THE MECHANISM

2.2.1 Mechanism position for disassembly/assembly

The mechanism should basically be disassembled and assembled in the unloading end (No Cassette) position.
However, other mechanism position is sometimes required for disassembly or assembly. In such a case, the required position is specified every time in the descriptions in 2.6, "Replacement of major parts".

2.2.2 Mode transition

To change the mechanism mode manually, rotate the emergency gear of the mode motor assembly shown in Fig. 2.2.1 as below.
The mechanism mode can be changed by applying 3 V DC to the mode motor electrodes.
The MINI and STD reel positions can be changed over by manually sliding the reel change plate.

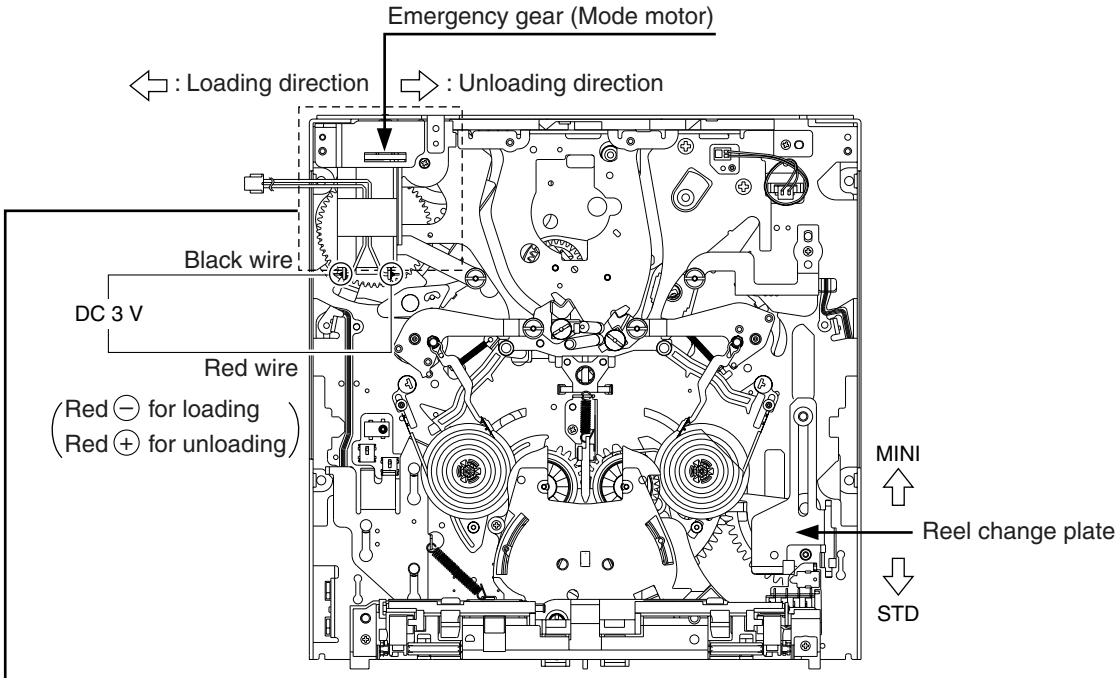


Fig. 2.2.1

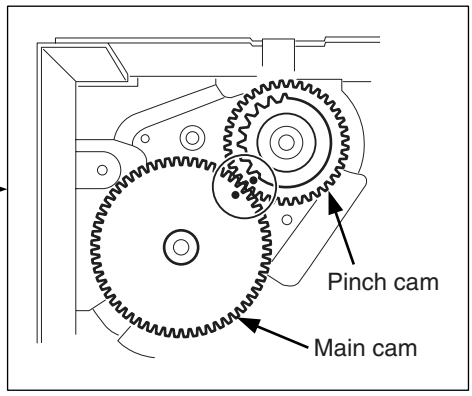


Fig. 2.2.2

Important:
When turn the Emergency gear (Mode) to Unloading direction by hand until the hole of the Main cam and the hole of the pinch cam in a straitline connecting. (refer to Fig.2.2.2)
Please do not turn the Emergency gear (Mode) more than the above.

2.3 MECHANISM TIMING CHART

See Table 2-3-1 below.

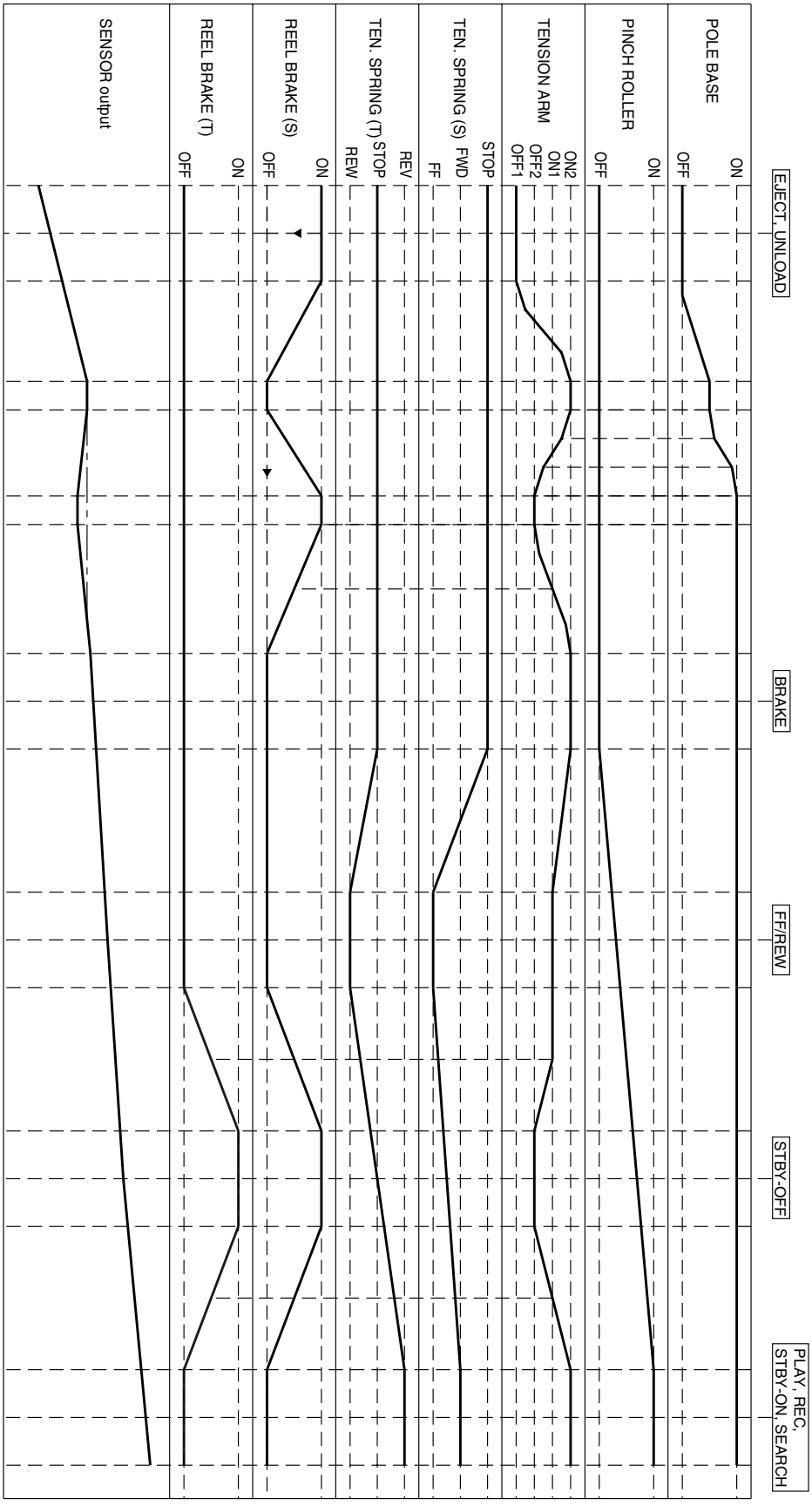


Table 2-3-1

2.4 MAINTENANCE AND INSPECTION OF MAJOR PARTS

Periodical inspection and maintenance are requisite to maintain the initial performance and reliability of the product. Table 2-4-1 (Maintenance & Inspection List) has been compiled assuming standard operating conditions, and the specifications in the table are greatly variable depending on the actual operating environment and conditions. Remember that, if the maintenance and inspection are not enforced properly, the operating hours of the product will not only reduce considerably but other unfavorable influences may produce.

Rubber parts may deform or degrade after long period of storage even if they are not used in this period.

The service life of the drum is variable depending on the tape used and operating environment.

2.4.1 Layout of Major Parts

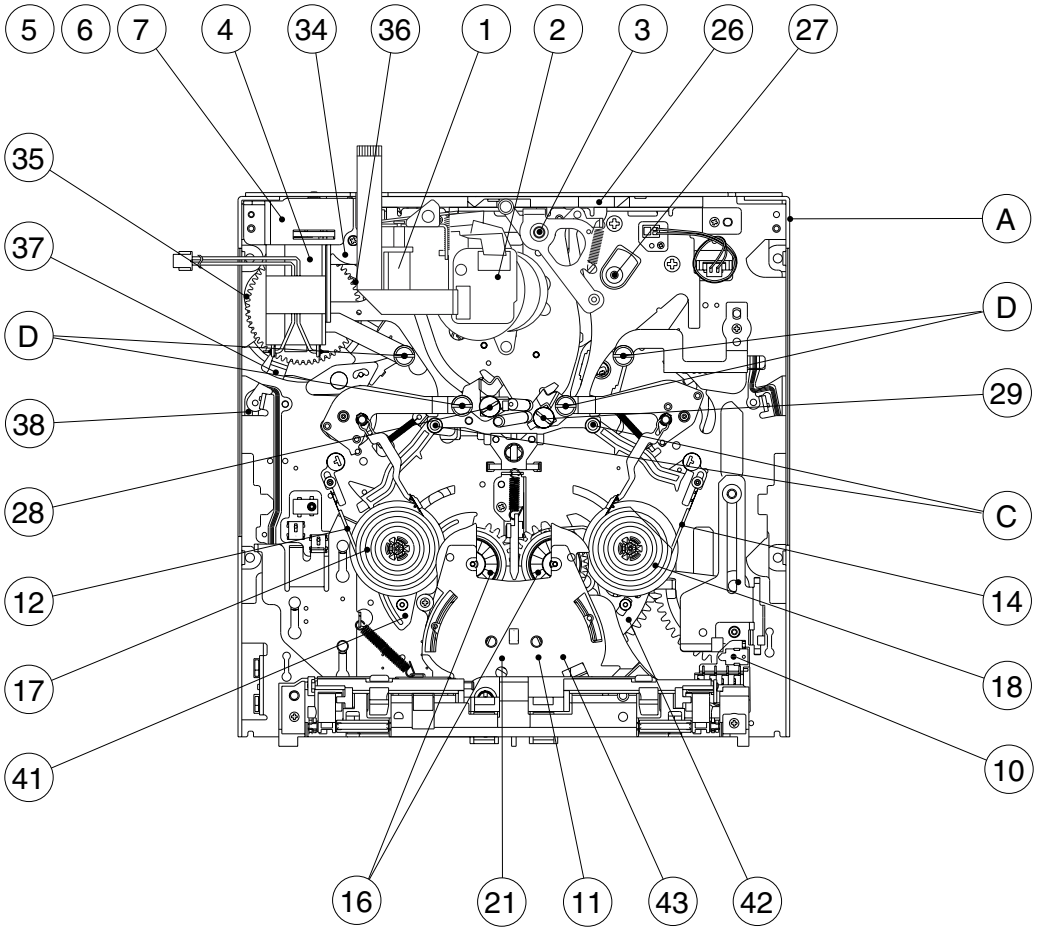


Fig. 2.4.1

2.4.2 Maintenance/inspection table

1) Replace the whole mechanism assembly in the 6000H maintenance.
2) The SUP/TU tension arm assemblies, sub-deck assembly (ENT. G. roller section) and EGR ARM assembly have undergone perpendicularity management after being assembled. If any of the above assemblies needs replacement, the whole mechanism assembly should be replaced.

	Part Name	Symbol No.	Operating Hours (DRUM Hour Meter)												Ref. Section
			500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	
1	㉘ SUP P. BASE ASSEMBLY	M3 66	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.17
2	㉙ TU P. BASE ASSEMBLY	M3 67	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.17
3	Ⓓ GUIDE ROLLER	M3 30	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
4	Ⓓ COLLER	M3 31	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
5	Ⓓ FRANGE	M3 32	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.4.1
6	③ PINCH R.ARM ASSEMBLY	M3 4	★	○★	★	●	★	○★	★	●	★	○★	★	—	2.6.3
7	② DRUM ASSEMBLY	M3 80	★	★	★	●	★	★	★	●	★	★	★	—	2.6.2
8	㉗ CAPSTAN SHAFT	M3 64	★	★	★	★	★	★	★	★	★	★	★	—	
9	㉗ CAPSTAN MOTOR	M3 64	—	—	—	—	—	—	—	—	—	○	—	—	2.6.16
10	㉑ REEL MOTOR	M3 24	—	—	—	—	—	—	—	—	—	○	—	—	2.6.13
11	⑩ M.I.C. terminal	M3 51	★	★	★	★	★	★	★	★	★	★	★	—	
12	⑩ M.I.C. CONNECTOR	M3 51	—	—	—	—	—	—	—	—	—	—	—	—	2.6.6
	㊸ FPC 1 ASSEMBLY	M3 49	★	★	★	★	★	★	★	★	★	★	★	—	2.6.25
	⑪ IDLER COVER	M3 52	—	—	—	—	—	—	—	—	—	—	—	—	2.6.7
13	Ⓒ CASSETTE GUIDE PIN		★	★	★	★	★	★	★	★	★	★	★	—	2.4.1
15	④ MODE MOTOR ASSEMBLY	M3 47	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
16	㉟ MAIN CAM	M3 12	—	—	—	—	—	—	—	—	—	—	—	—	2.6.20
17	⑥ GEAR 1	M3 44	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
18	⑦ GEAR 2	M3 45	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
19	⑤ WORM WHEEL	M3 46	—	—	—	—	—	—	—	—	—	—	—	—	2.6.4
20	㉞ PINCH CAM GEAR	M3 13	—	—	—	—	—	—	—	—	—	—	—	—	2.6.20
21	㉖ PINCH PLATE	M3 17	—	—	—	—	—	—	—	—	—	—	—	—	2.6.16
22	㊳ CTL. PLATE	M3 9	—	—	—	—	—	—	—	—	—	—	—	—	2.6.22
23	㊲ CTL. ARM ASSEMBLY	M3 56	—	—	—	—	—	—	—	—	—	—	—	—	2.6.21
24	㊱ ARM GEAR	M3 11	—	—	—	—	—	—	—	—	—	—	—	—	2.6.21
25	㊶ SUP REEL PLATE ASSEMBLY	M3 54	—	—	—	—	—	—	—	—	—	—	—	—	2.6.24
26	㊷ TU REEL PLATE ASSEMBLY	M3 55	—	—	—	—	—	—	—	—	—	—	—	—	2.6.24
27	⑰ SUP REEL DISK ASSEMBLY	M3 35	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
28	⑱ TU REEL DISK ASSEMBLY	M3 36	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
29	⑯ CONN. GEAR ASSEMBLY	M3 37	—	○	—	●△	—	○	—	●△	—	○	—	—	2.6.10
30	⑫ SUP TENSION BAND ASSEMBLY	M3 38	—	○	—	●	—	○	—	●	—	○	—	—	2.6.8
31	⑭ TU TENSION BAND ASSEMBLY	M3 39	—	○	—	●	—	○	—	●	—	○	—	—	2.6.9
32	⑪ IDLER ARM ASSEMBLY	M3 40	—	○	—	●	○	○	—	●	—	○	—	—	2.6.7
33	① HEAD CLEANAER	M3 5A	○	●	○	●	—	●	○	●	○	●	○	—	2.6.2
34	Ⓑ CASSETTE HOUSING ASSEMBLY	M3 90	—	—	—	—	—	—	—	—	—	—	—	—	2.6.1
35	Ⓐ MECHANISM ASSEMBLY	M3 1	—	—	—	—		—	—	—	—	—	—	●	

★: Clean with ethyl alcohol. ○: Check and replace if required. ●: Replace. △: Oil the shaft.
After replacing a part, apply lubricant to the required points.

Table 2-4-1

2.4.3 Cleaning

The tape transport system should be cleaned periodically. Be sure to clean the tape transport system upon receipt of a set for servicing, etc. To clean use a good quality fine-textured cloth moistened with ethyl alcohol.

1) When the video head is stained, the playback output level decreases and a read error will not be able to be corrected by the error correction. If this occurs, block noise appear on the monitor, the audio will not be output, and the video output will eventually be lost when the video head becomes extremely dirty. To clean the drum, while applying cleaning cloth (service part No. : KSMM-01) or high quality paper gently to the upper drum, rotate the upper drum in the normal (counterclockwise) rotation direction.
   The dirt deposited on the video head can be removed by playing a cleaning tape.

CAUTION

Do not move the cleaning paper while applying it to the video head. Otherwise, the video head may be damaged.

2) The lower drum tends to attract dirt on the leader section and the linearity cannot be guaranteed when the lower drum becomes extremely dirty. Particularly, the tape inlet and output sections gather dirt easily, causing symptoms such as dropout of the reproduced FM signal, deterioration of video quality and lack of audio output. In order to clean the leader section, rub a a cotton swab gently along its edge.

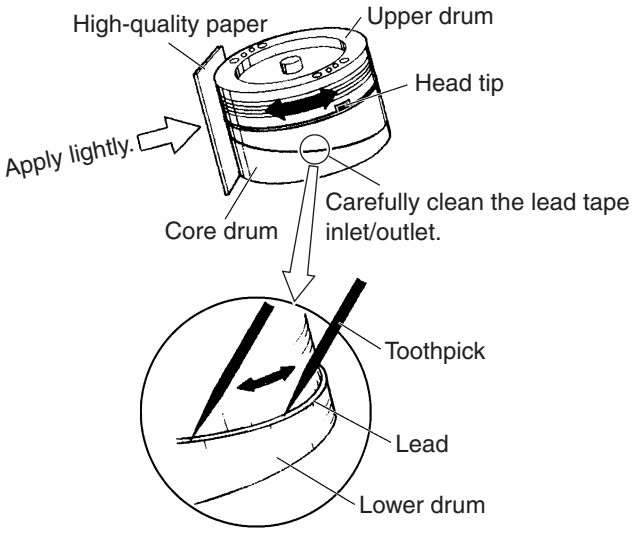


Fig. 2.4.2

3) Stain of the tape transport system leads to tape damage. When magnetic dust or dirt penetrates inside the rollers, a rotation malfunction may affect the video. Clean the tape transport parts carefully using a cleaning cloth or cotton swab moistened with ethyl alcohol.

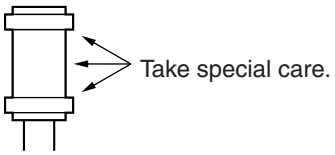


Fig. 2.4.3

2.4.4 Oiling and Greasing

Table 2-4-2 shows the oil and greases used with the set.

Classification	Name	Part No.
Oil	Cosmo Hydro HV100	YTU94027
Grease	Maltemp SH-P	KYODO-SH-P
	Hanal	RX-410R

Table 2-4-2

1) Oiling should be performed periodically. Oil the shafts by referring to the maintenance table.
2) After replacing a part, grease the required points. For the parts to be greased see the exploded diagram in chapter 5, "DISASSEMBLY DRAWINGS AND PARTS LIST".
3) As Hanal separates over time, be sure to mix it (shake) well before use.
4) Take care not to leave grease or oil on the tape transport parts which come into contact with the tape or on the brake pads.
5) Take care not to apply too much oil or grease. The standard oiling quantity is one drop and the standard greasing quantity is the quantity with which the grease does not overflow.

2.5 PERIODICAL MAINTENANCE

Perform maintenance at the correct times in accordance with the maintenance table.
Fig. 2-5-1 shows the flow chart of periodical maintenance procedures at different operating hours.

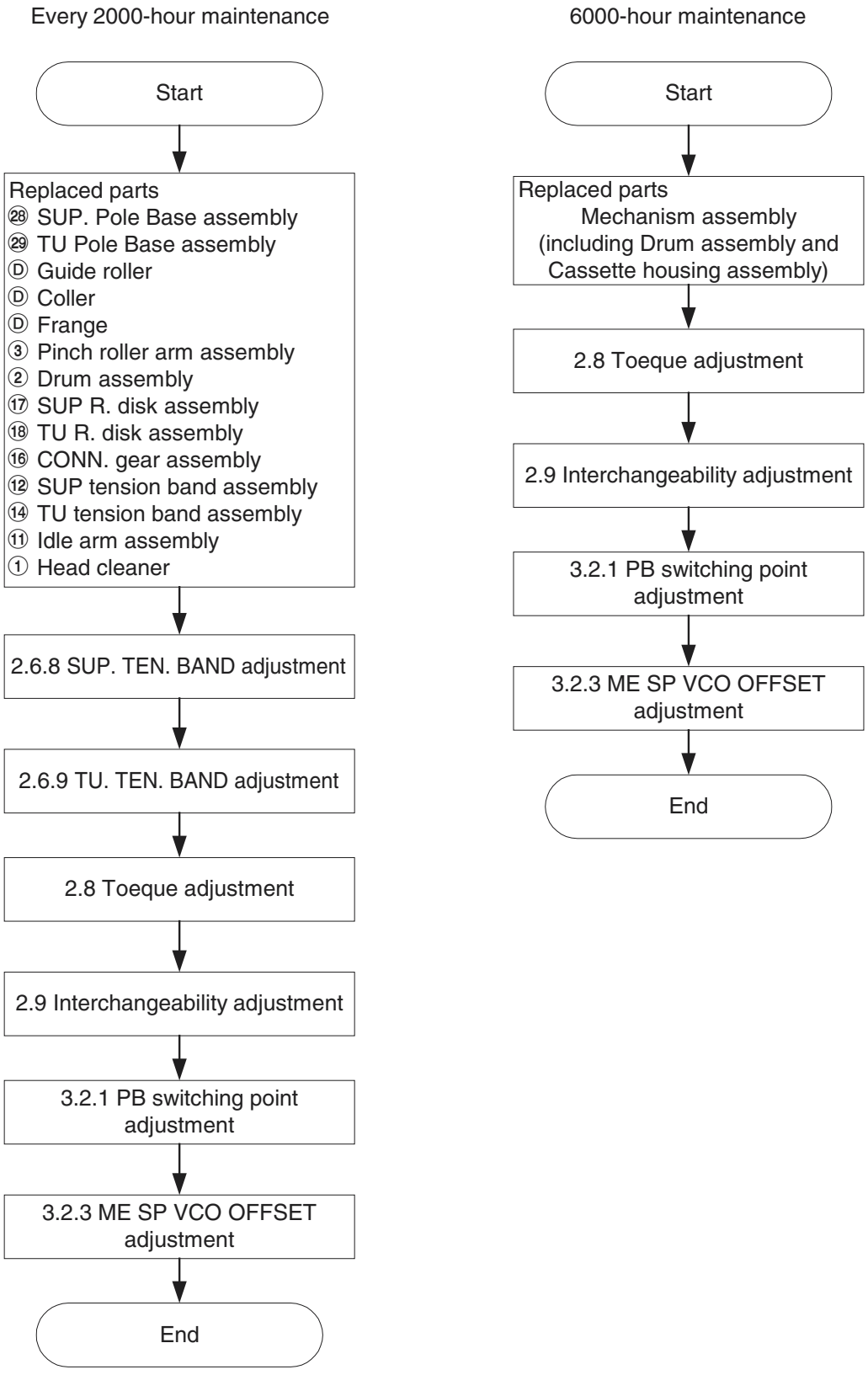


Fig. 2.5.1

No.	Item	Ref. Illustration	Procedure

2.6 REPLACEMENT OF MAJOR PARTS

- The disassembly procedures shown in oder of disassembly. To remove the part, it is necessary to have completed all the stages before it.
- Always use a torque driver and the specified securing torque to tighten screws.
- Position the mechanism to the unloading end (No Cassette) mode before disassembly or assembly unless otherwise specified.

1 Ⓑ Cassette housing assembly

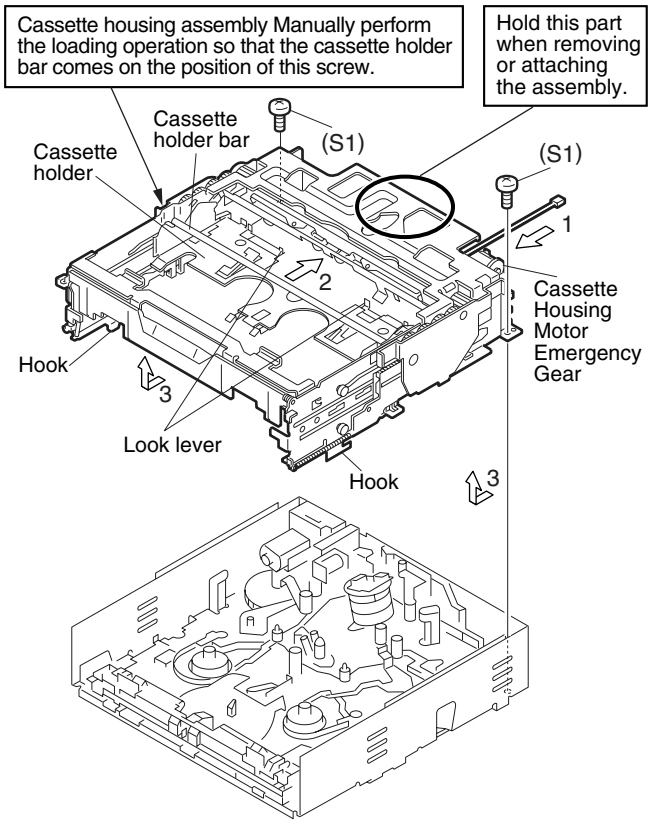


Fig. 2.6.1

<Disassembly>

1) Turn the cassette housing motor emergency gear in the direction of the arrow, while pushing the lock lever in the direction of arrow 2, then move the cassette holder so that the cassette holder bar comes in the position shown in the illustration.
2) Remove two screws (S1), slide the cassette housing toward the front and remove it by releasing the lock on the Hook function as shown by arrow 3.

<Assembly>

1) Reverse the disassembly procedure.
2) Screws (S1) should be tightened using a securing torque of 0.2 N/m (2 kgf/cm).

Note:
Be sure to attach the cassette housing in the same position as when it was removed.

Hook function of the Cassette hausing.

2 ① Head cleaner assembly/ ② Drum assembly

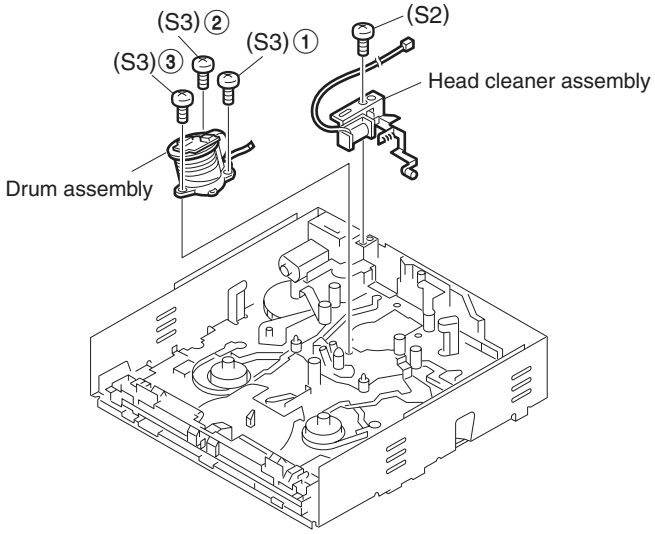


Fig. 2.6.2

<Disassembly>

Head cleaner assembly:

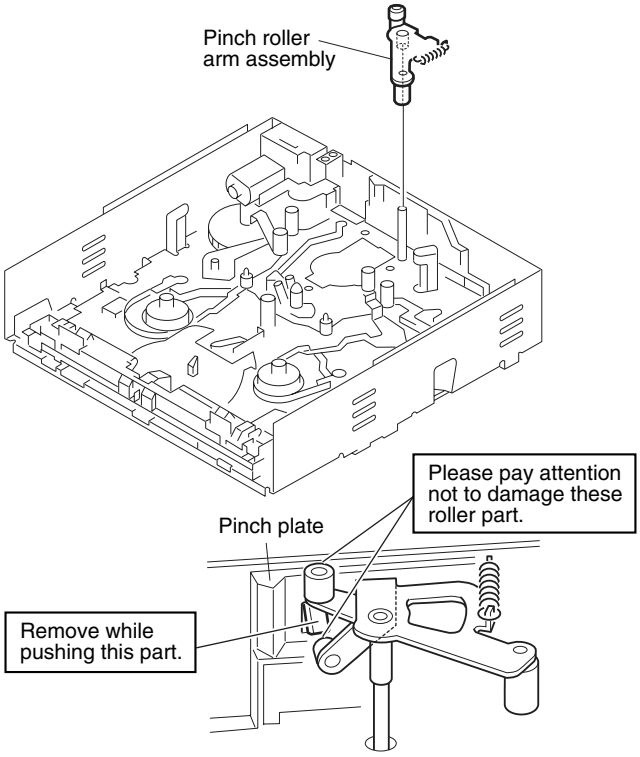
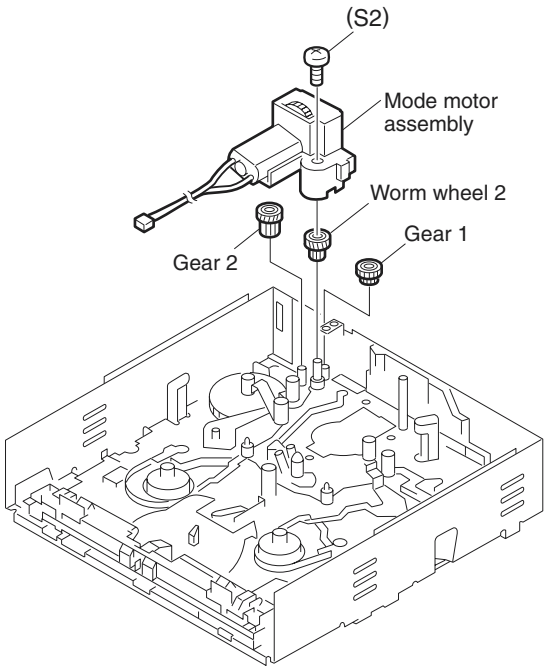
1) Remove the screw (S2) and remove the head cleaner assembly.

Drum assembly:

1) Remove the Drum FPC from the DV/CPU circuit board CN107.
2) Remove the screw (S3) and remove the drum assembly.

<Assembly>

1) Reverse the disassembly procedure.
2) Drum section screws (S3) should be tightened in order of ① — ③ and using a securing torque of 0.04 N/m (0.4 kgf/cm).

No.	Item	Ref. Illustration	Procedure
3	**③ Pinch roller arm assembly**  Pinch roller arm assembly Please pay attention not to damage these roller part. Pinch plate Remove while pushing this part. **Fig. 2.6.3**		**<Disassembly>** 1) While pushing the hook on the pinch plate, lift the pinch roller arm assembly upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
4	**④ Mode motor assembly/ ⑤ Worm wheel 2/ ⑥ Gear 1/ ⑦ Gear 2**  **Fig. 2.6.4**		**<Disassembly>** **Mode motor assembly:** 1) Remove the screw (S2) and remove the mode motor assembly. **Worm wheel 2 & gears 1 and 2:** 1) Lift the worm wheel 2 upward to remove. 2) Lift the gear 1 upward to remove. 3) Lift the gear 2 upward to remove. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Worm wheel 2 and gears 1 and 2 do not require the mechanism phase adjustment.**

No.	Item	Ref. Illustration	Procedure

5 **Cassette guide assembly/ M.I.C guide**

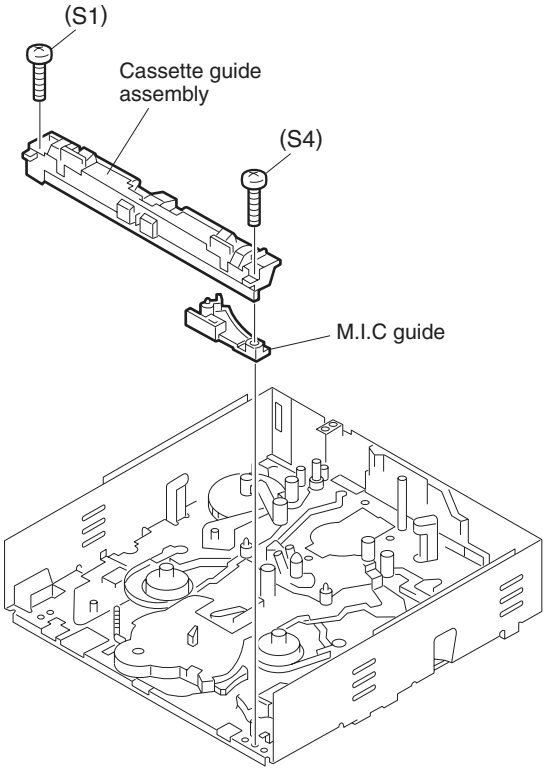


Fig. 2.6.5

<Disassembly>

Cassette guide assembly:

1) Remove the screws (S1) (S4) and remove the cassette guide assembly.

M.I.C guide:

1) While pushing the hook on the M.I.C guide, lift it upward to remove.

<Assembly>

1) Reverse the disassembly procedure.

Note:
When install the M.I.C guide, the reel position sould be standard cassette position.

6 ⑩ **M.I.C connector**

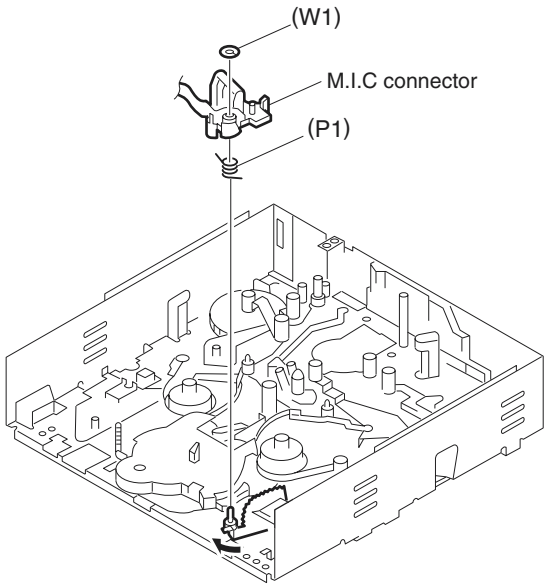


Fig. 2.6.6 (1)

<Disassembly>

1) Slide the reel change plate in the direction of arrow 1 to place the reel in the mini-cassette position.
2) Remove the slit washer (W1) and remove the M.I.C connector.
3) Remove the spring (P1).

<Assembly>

1) Reverse the disassembly procedure.

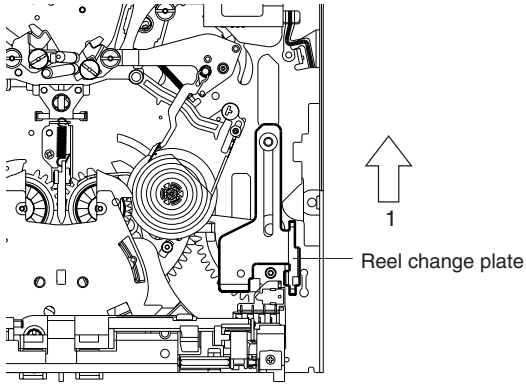


Fig. 2.6.6 (2)

No.	Item	Ref. Illustration	Procedure

7 ⑪ **Idler arm assembly**

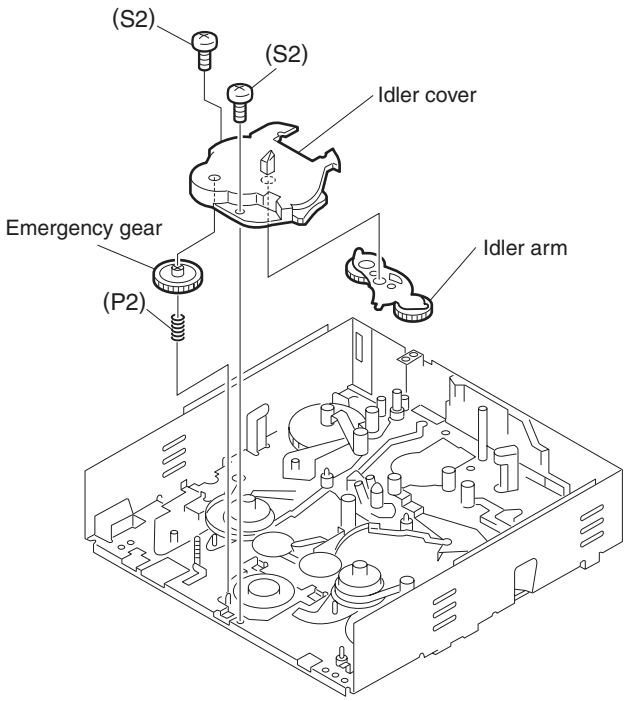


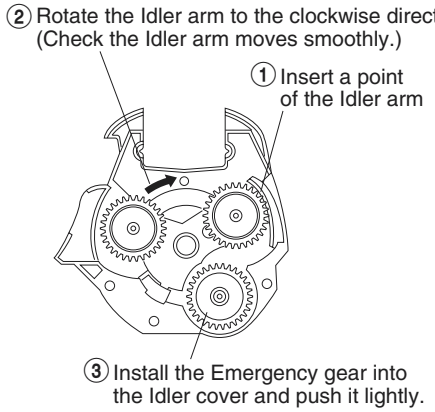
Fig. 2.6.7

<Disassembly>

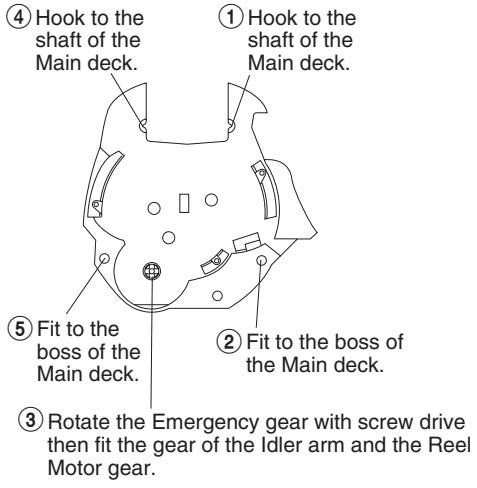
1) Remove the two screws (S2) and remove the idler cover.
2) Remove the idler arm.
3) Remove the emergency gear.
4) Remove the spring (P2).

<Assembly>

1) Attach the Idler arm and the Emergency gear into the Idler cover.


② Rotate the Idler arm to the clockwise direction.
(Check the Idler arm moves smoothly.)
① Insert a point of the Idler arm
③ Install the Emergency gear into the Idler cover and push it lightly.

2) Attach the Idler arm assembly onto the Main deck.


④ Hook to the shaft of the Main deck.
① Hook to the shaft of the Main deck.
⑤ Fit to the boss of the Main deck.
② Fit to the boss of the Main deck.
③ Rotate the Emergency gear with screw drive then fit the gear of the Idler arm and the Reel Motor gear.

Caution : When install the Idler arm assembly into the main deck, if the gear of the Idler arm and Reel Motor gear does not fit, these geare may damaged.

No.	Item	Ref. Illustration	Procedure

8 **⑫ Supply tension band assembly/ Supply tension arm assembly**

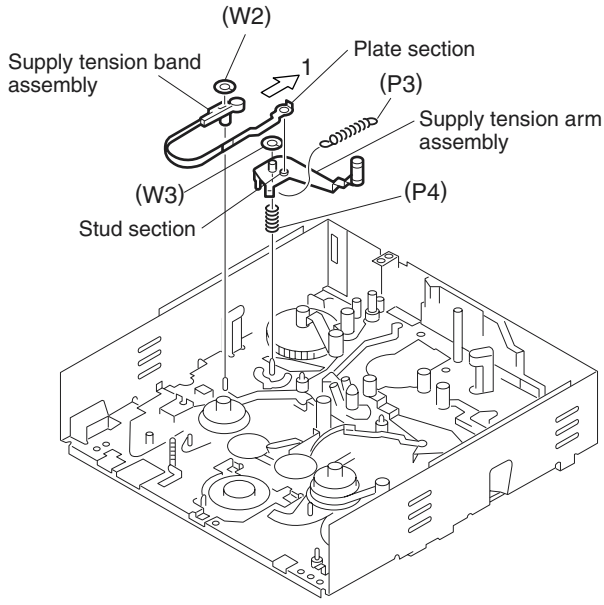


Fig. 2.6.8 (1)

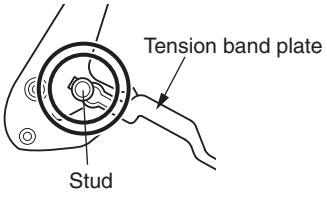


Fig. 2.6.8 (2)

<Disassembly>

Supply tension band assembly:

1) Remove the slit washer (W2).
2) Slide the tension band plate in the direction of arrow 1 and remove the plate from the tension arm stud section.

Supply tension arm assembly:

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.8 (3))
3) Remove the spring (P4).

<Assembly>

1) Reverse the disassembly procedure.

Notes:

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The supply tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

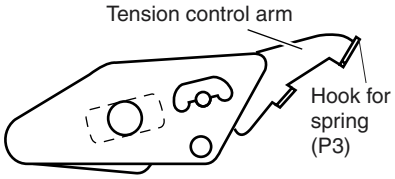


Fig. 2.6.8 (3)

<Supply tension band position adjustment>

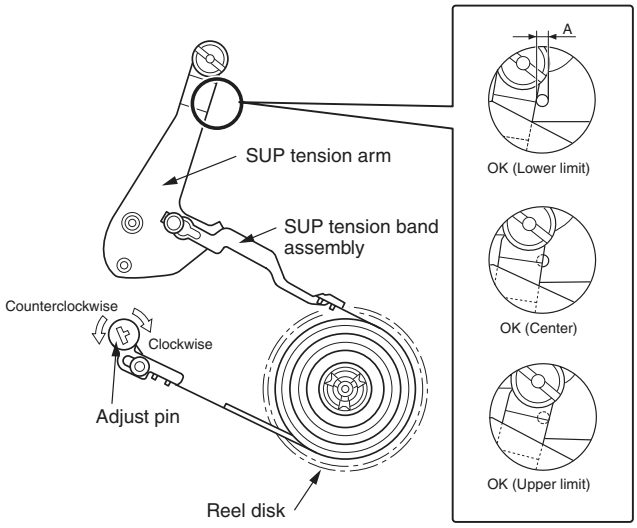


Fig. 2.6.8 (4)

1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, "Mode transition".) to perform loading untill the loading end position.
3) Ensure that the right edge of the tension arm is placed within the range of reference hole A on the sub-deck.
4) If the right edge is not within the above range, adjust by turning the adjust pin.

Clockwise rotation : to lower limit
Counterclockwise rotation : to upper limit

No.	Item	Ref. Illustration	Procedure

9 ⑭ **Take-up tension band assembly/ Take-up tension arm assembly**

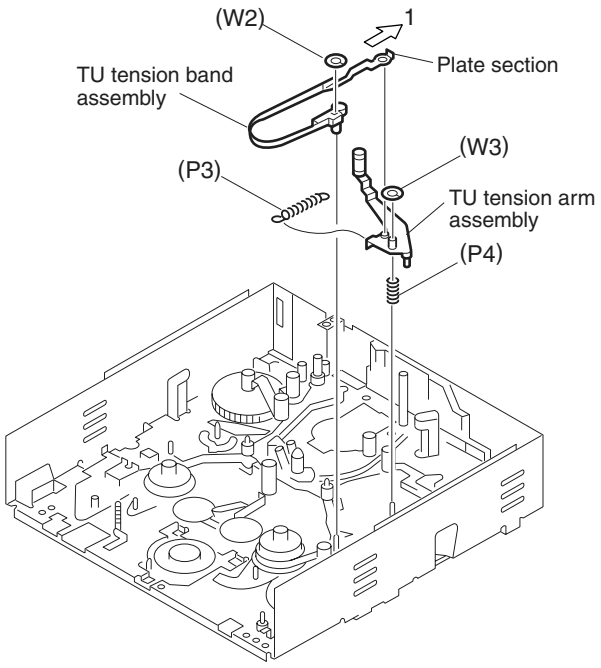


Fig. 2.6.9 (1)

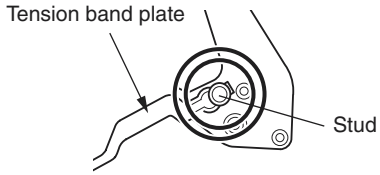


Fig. 2.6.9 (2)

<Disassembly>

Take-up tension band assembly:

1) Remove the slit washer (W2).
2) Slide the plate section of tension band in the direction of arrow 1 and remove the plate from the tension arm stud.

Take-up tension arm assembly:

1) Remove the slit washer (W3) and remove the supply tension arm assembly.
2) Unhook the spring (P3) from the tension control arm. (See Fig. 2.6.9 (3))
3) Remove the spring (P4).

<Assembly>

1) Reverse the disassembly procedure.

Notes:

- **Pinch the tension band plate and tension arm stud together and fix them. Be careful not to bend the plate during the above. (See ◎ in Fig. 2.6.8 (2))**
- **The take-up tension arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

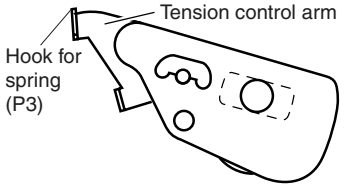


Fig. 2.6.9 (3)

<Take-up tension band position adjustment>

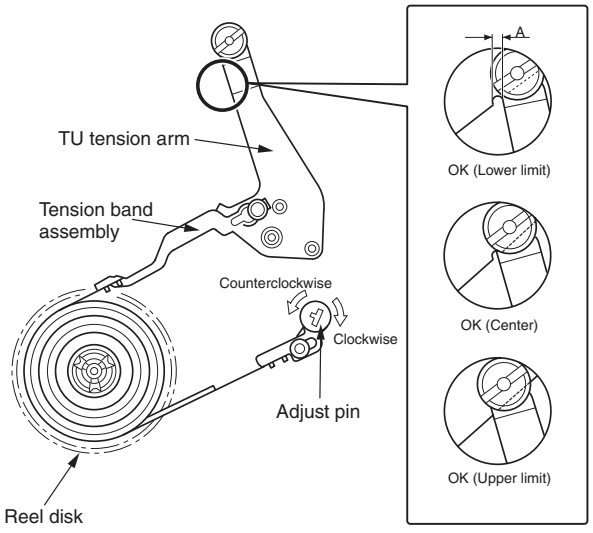
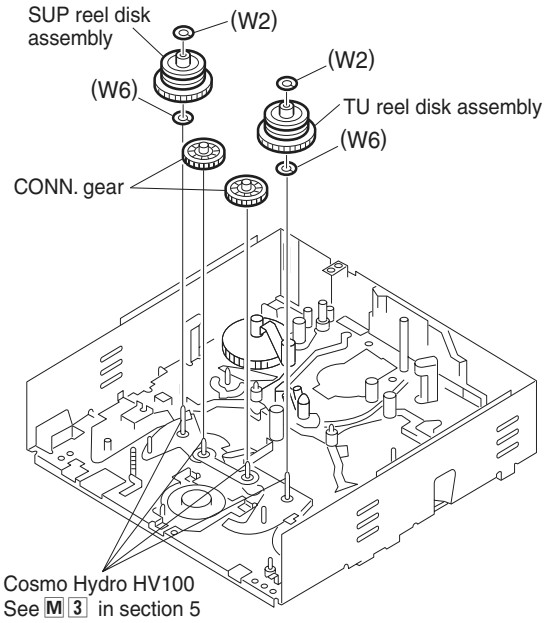
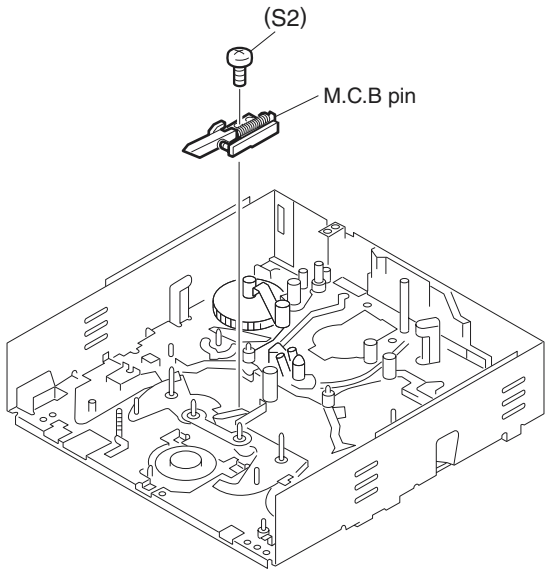


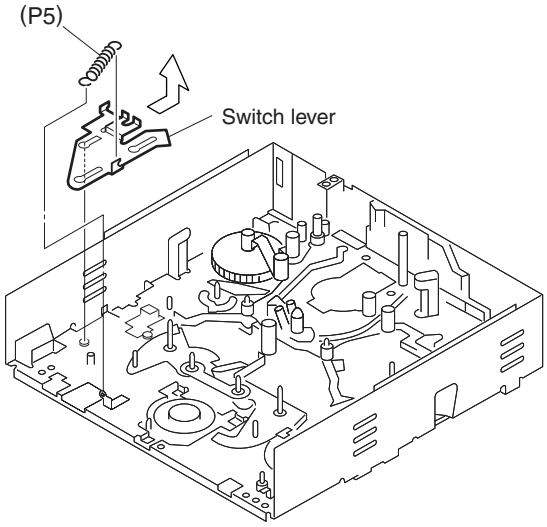
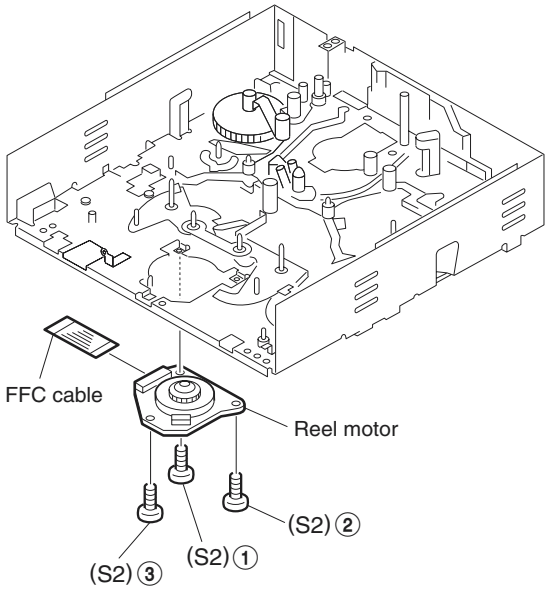
Fig. 2.6.9 (4)

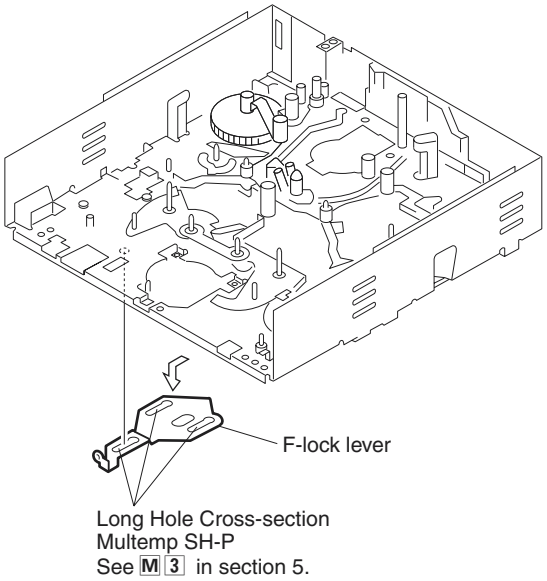
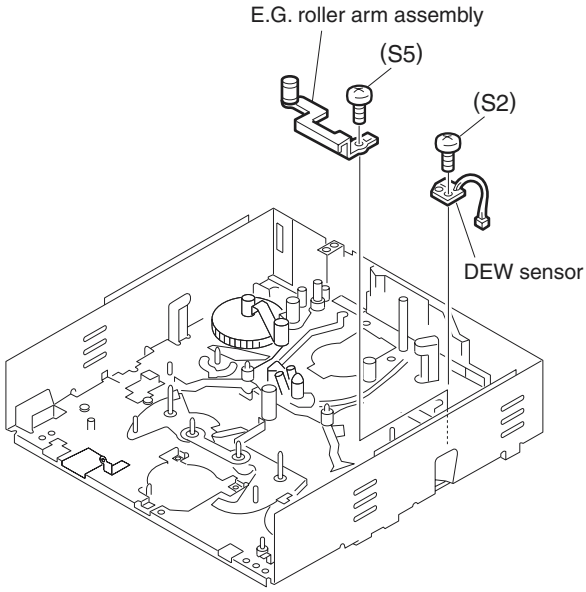
1) With the cassette housing removed, place the reel in the mini-cassette position. (See Fig. 2.6.6 (2))
2) Manually rotate the emergency gear of mode motor counterclockwise (See section 2.2.2, "Mode transition".) to perform loading untill the loading end position.
3) Ensure that the right edge of the tension arm is placed within the range of notch A on the sub-deck.
4) If the right edge is not within the above range, adjust by turning the adjust pin.

Clockwise rotation : to upper limit
Counterclockwise rotation : to lower limit

No.	Item	Ref. Illustration	Procedure
10	**⑯ CONN gear assembly/ ⑰ SUP reel disk assembly/ ⑱ TU reel disk assembly**  **Fig. 2.6.10**	**<Disassembly>** **CONN. gear assembly** 1) Lift the two CONN gears upward to remove. **SUP and TU reel disk assemblies:** 1) Remove the two slit washers (W2) and lift the SUP and TU reel disk assemblies separately to remove each assembly. 2) Lift the two washers (W6) to remove. **<Assembly>** 1) Reverse the disassembly procedure.
11	**M.C.B pin**  **Fig. 2.6.11**	**<Disassembly>** 1) Remove the screw (S2) and remove the M.C.B pin. **<Assembly>** 1) Reverse the disassembly procedure.

No.	Item	Ref. Illustration	Procedure

12	**Switch lever**  **Fig. 2.6.12**	**<Disassembly>** 1) Unhook the spring (P5). 2) Slide the switch lever in the direction of the arrow and then lift it upward to remove. **<Assembly>** 1) Reverse the disassembly procedure.
13	**㉑ Reel motor**  **Fig. 2.6.13**	**<Disassembly>** 1) Remove the FFC from the mechanism circuit board CN124. 2) Remove the three screws (S2) and remove the reel motor. **<Assembly>** 1) Reverse the disassembly procedure. 2) Tighten the three screws (S2) in the order of ① - ③. **Note:** **Be sure to have the FFC cable installed on the reel motor side before attaching.**

No.	Item	Ref. Illustration	Procedure
14	**F-lock lever**	 **Fig. 2.6.14**	**<Disassembly>** 1) Slide the F-lock lever in the direction of the arrow to remove. **<Assembly>** 1) Reverse the disassembly procedure.
15	**Dew sensor/ E.G. roller arm assembly**	 **Fig. 2.6.15**	**<Disassembly>** **Dew sensor:** 1) Remove the screw (S5) and remove the DEW sensor. **E.G. roller arm assembly:** 1) Remove the screw (S2) and remove the E.G. roller arm assembly. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **The E.G. roller arm assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**

No.	Item	Ref. Illustration	Procedure

16 **Sub-deck/ ㉖ Pinch plate/ ㉗ Capstan motor**

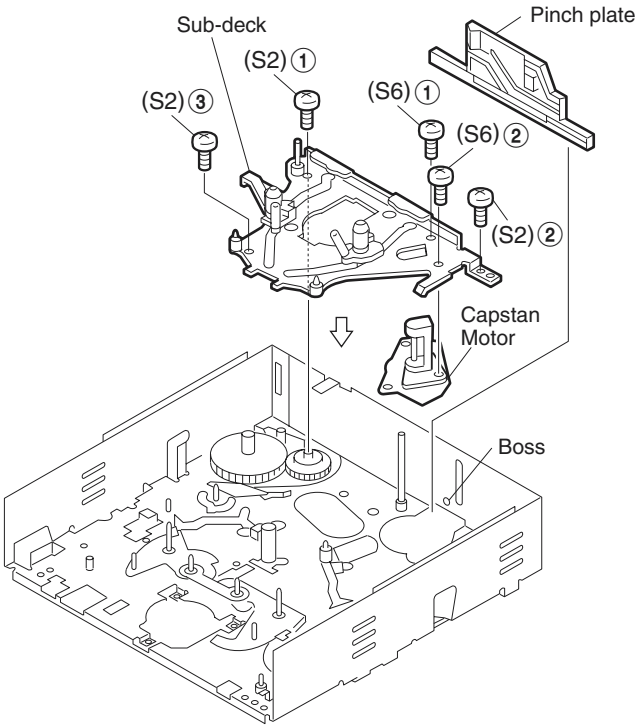


Fig. 2.6.16 (1)

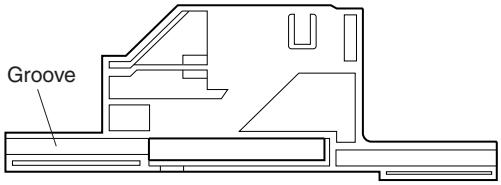


Fig. 2.6.16 (2)

<Disassembly>

Sub-deck/pin plate:

1) Remove the three screws (S2) and slide the sub-deck in the direction of arrow then remove it. The pinch plate also detaches at this time.

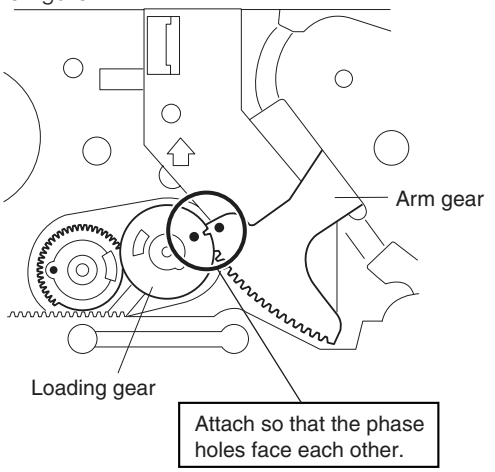
Capstan motor:

1) Remove the two screws (S6) and remove the capstan motor.

<Assembly>

Do this procedure in the unloading end position.

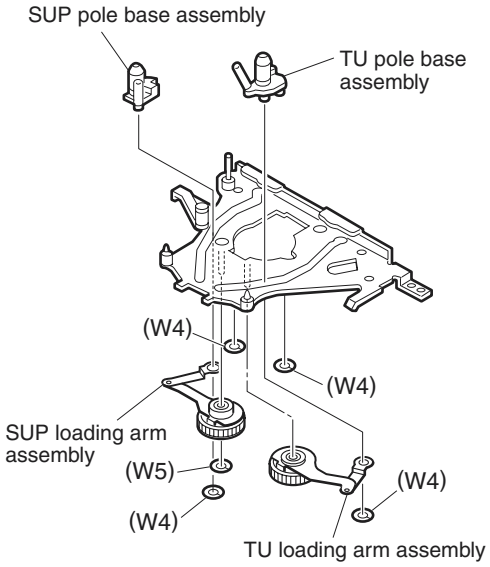
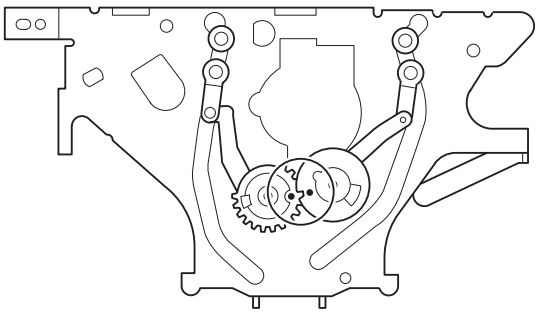
1) Fit the groove on the rear of the pinch plate into the boss on the main deck.
2) Reverse the disassembly procedure.
3) Attach the loading gear and arm gear so that the phase relationship between them is as shown in the figure.



— Unloading End Position —

Notes:

- **Tighten the screws (S2) of the sub deck in the order of ① - ③.**
- **The sub deck assembly has undergone perpendicularity management after being assembled, so when replacement is required, it will be necessary to replace the entire mechanism assembly.**
- **Capstan motor screws (S6) should be tightened in the order of ① - ② and using a securing torque of 0.20 N·m (2 kgf·cm).**

No.	Item	Ref. Illustration	Procedure
17	㉘ **Supply pole base assembly/** ㉙ **Take-up pole base assembly**	 **Fig. 2.6.17**	**<Disassembly>** **Do this procedure in the loading end position.** **Supply pole base assembly:** 1) Remove the two slit washers (W4) and remove the supply pole base assembly. **Take-up pole base assembly:** 1) Remove the two slit washers (W4) and remove the take-up pole base assembly. **<Assembly>** 1) Reverse the disassembly procedure.
18	**Supply loading arm assembly/ Take-up loading arm assembly**	 **Fig. 2.6.18 Sub Deck Bottom Side**	**<Disassembly>** **Do this procedure in the loading end position.** **Take-up loading arm assembly:** 1) Remove the slit washer (W5) and remove the take-up loading arm assembly. **Supply loading arm assembly:** 1) After removing the take-up loading arm assembly, remove the supply loading arm assembly. **<Assembly>** 1) Reverse the disassembly procedure. 2) Attach so that the gear holes on the assemblies face each other.

No.	Item	Ref. Illustration	Procedure

19 **Supply reel lock/ Take-up reel lock**

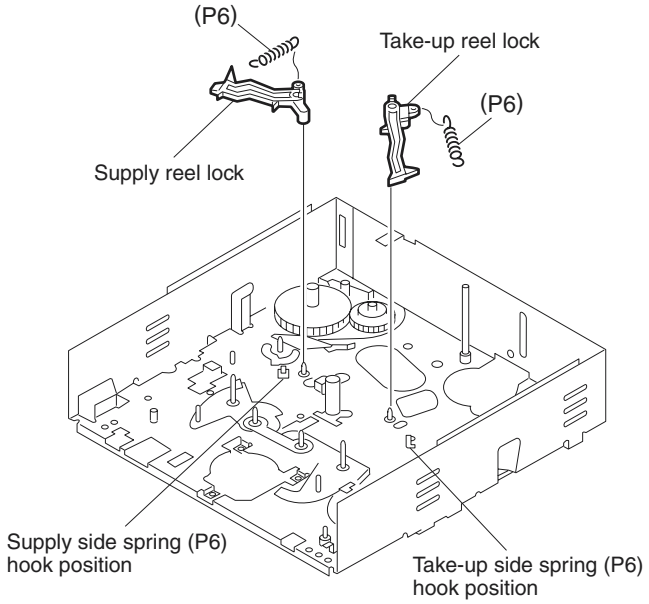


Fig. 2.6.19

<Disassembly>
Supply reel lock:
1) Unhook the spring (P6) and lift the supply reel lock upward to remove.

Take-up reel lock:
1) Unhook the spring (P6) and lift the take-up reel lock upward to remove.

<Assembly>
1) Reverse the disassembly procedure.

20 **㉞ Pinch cam gear/ ㉟ Main cam**

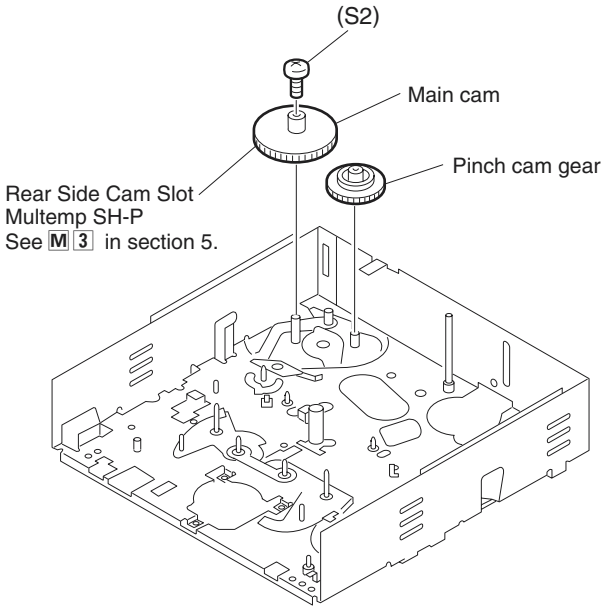


Fig. 2.6.20 (1)

<Disassembly>
Pinch cam gear:
1) Lift the pinch cam gear upward to remove.

Main cam:
1) Remove the screw (S2) and remove the main cam.

<Assembly>
1) Reverse the disassembly procedure.
2) Attach the main cam and pinch cam gear so that their phase relationship is as shown in the figure.

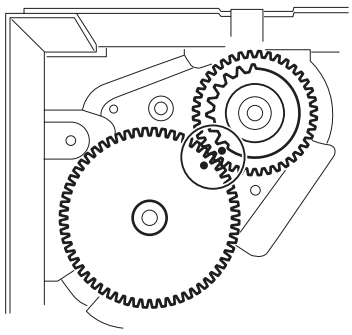


Fig. 2.6.20 (2)

No.	Item	Ref. Illustration	Procedure

21 **㊱ Arm gear/ ㊲ Control arm**

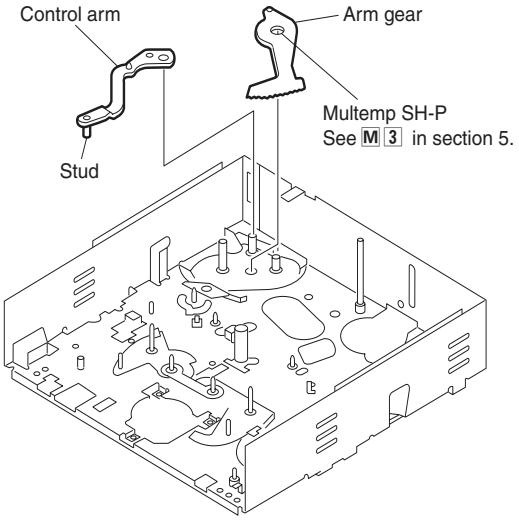


Fig. 2.6.21 (1)

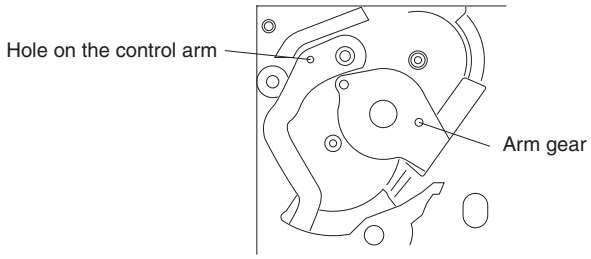


Fig. 2.6.21 (3)

<Disassembly>
Arm gear:
1) Remove the main cam as described in No. 20 and remove the arm gear.

Control arm:
1) Place the main deck upside down.
2) Bend the control plate slightly, disengage the control arm's stud from the groove on the plate and remove the control arm. (Refer to Fig. 2.6.21(2))

<Assembly>
1) Reverse the disassembly procedure.
2) Align the hole on the control arm withy that on the main deck.
3) Align the hole on the arm gear with that on the main deck.

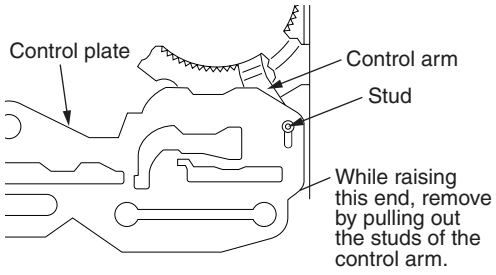


Fig. 2.6.21 (2)

22 **㊳ Control plate/ Mode sensor gear**

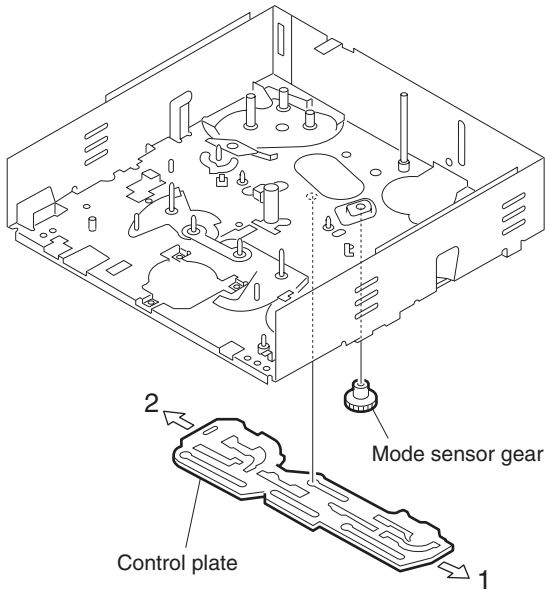


Fig. 2.6.22 (1)

<Disassembly>
Control plate:
1) Place the main deck upside down.
2) Slide the control plate in the direction of the arrow 1 to remove.

Mode sensor gear:
1) Remove the mode sensor gear as if pulling it out.

<Assembly>
1) Attach the control plate.
2) Slide the control plate in the direction of the arrow 2.
3) Attach the mode sensor gear so that the hole on it is aligned with that on the control plate.

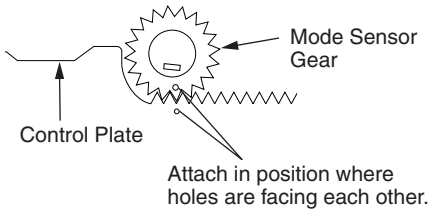


Fig. 2.6.22 (2)

No.	Item	Ref. Illustration	Procedure

23 **Leaf plate**

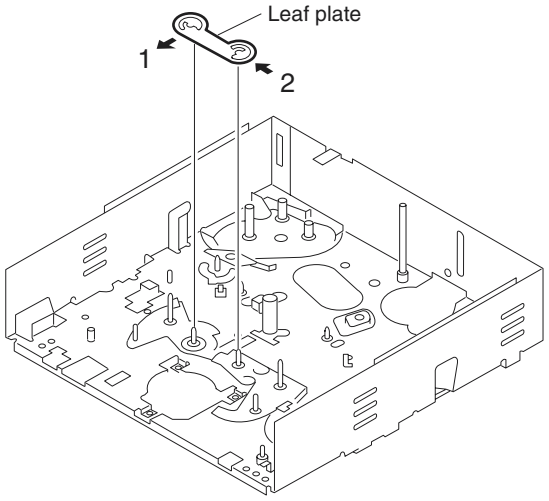


Fig. 2.6.23

<Disassembly>

1) Push the supply side of the leaf plate in the direction of arrow 1 to release the lock.
2) Push the take-up side of the leaf plate in the direction of arrow 2 to release the lock. Now the leaf plate can be removed.

<Assembly>

1) Reverse the disassembly procedure.

Note:

Be careful not to deform the leaf plate during removing or attaching.

24 **㊶ Supply reel plate/ ㊷ Tale-up reel plate**

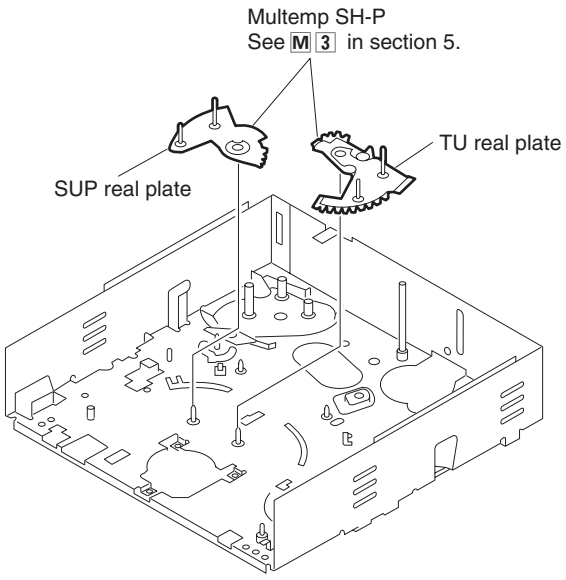


Fig. 2.6.24 (1)

<Disassembly>

Supply reel plate:

1) Slide the reel change plate toward the mini-cassette position. (Stop sliding before it is locked completely.) (See Fig. 2.6.6 (2))
2) Lift the right side of the supply reel plate (gear side) and turn it slightly to remove.

Take-up reel plate:

1) Lift the left side of the take-up reel plate and turn it slightly to remove.

<Assembly>

1) Reverse the disassembly procedure.

Notes:

Take-up reel plate attaching position

Attach the take-up reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the reel plate drive gear.

Supply reel plate attaching position

Attach the supply reel plate so that the gear cogs on its inner right side are meshed with those on the left end of the supply reel plate.

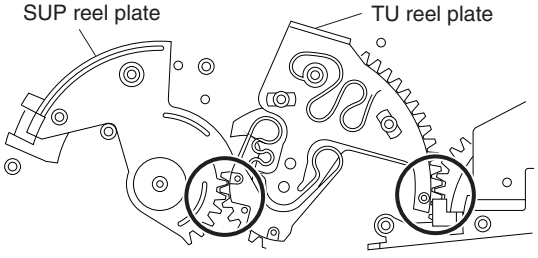
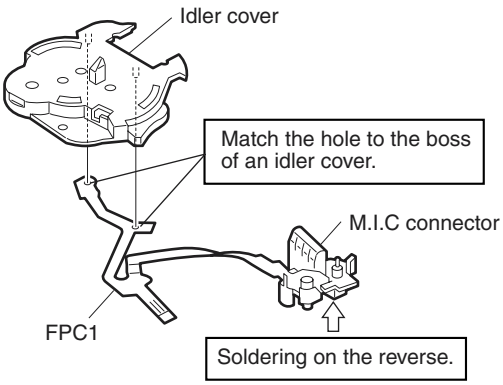
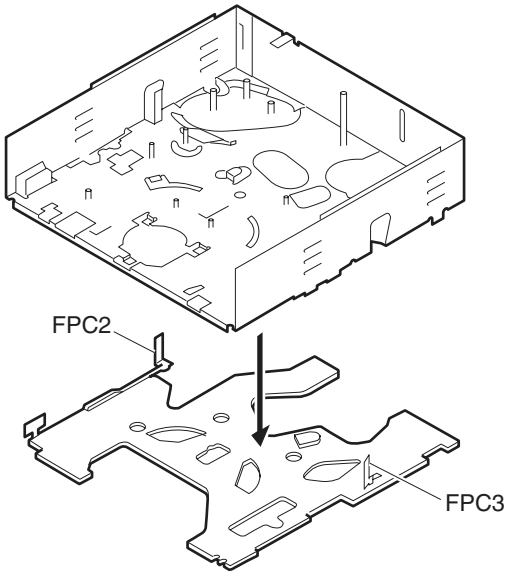
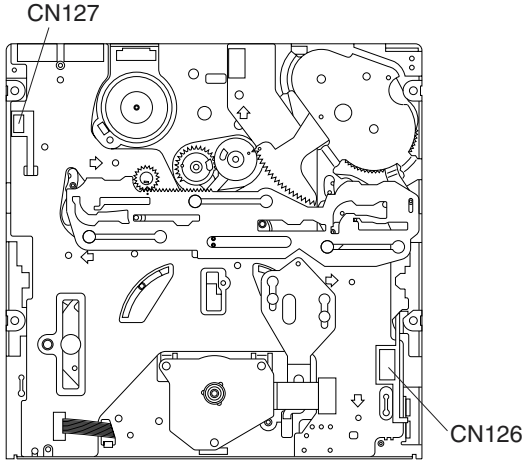


Fig. 2.6.24 (2)

No.	Item	Ref. Illustration	Procedure

25	㊸ **FPC1 assembly**  **Fig. 2.6.25**	**<Disassembly>** 1) Remove the M.I.C connector and idler arm assembly as described in section 2.6.7. 2) Remove solder from the M.I.C connector (6 positions). 3) Remove the FPC1 assembly by performing the same operation as peeling adhesive tape off for the idler cover section. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Do not reuse the removed FPC1 assembly.**
26	**FPC2 assembly/ FPC3 assembly**  **Fig. 2.6.26 (1)**	**<Disassembly>** **FPC2 assembly:** 1) Remove solder from CN126 on the mechanism board. 2) Remove the FPC2 assembly as if peeling adhesive tape off. **FPC3 assembly:** 1) Remove solder from CN127 on the mechanism board. 2) Remove the FPC3 assembly as if peeling adhesive tape off. **<Assembly>** 1) Reverse the disassembly procedure. **Note:** **Do not reuse the removed FPC1 and FPC2 assemblies.**  **Fig. 2.6.26 (2)**

No.	Item	Ref. Illustration	Procedure

27 **Cassette LED/ LED holder/ MECHA board assembly**

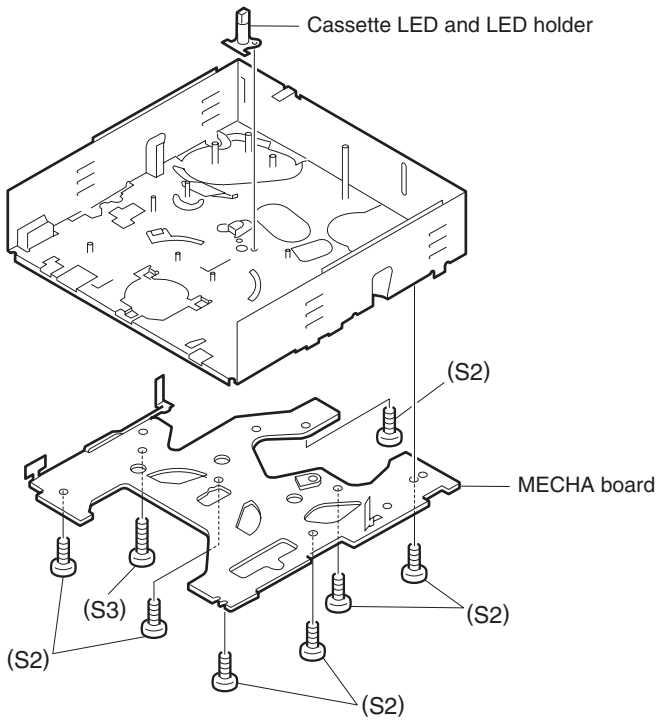


Fig. 2.6.27 (1)

<Disassembly>

Cassette LED:

1) Remove solder from LD1 on the mechanism board and remove the cassette LED.

LED holder:

1) While pushing the three claws locking the LED holder, remove it.

MECHA board assembly:

1) Remove the seven screws (S2) and a screw (S3), then remove the MECHA board assembly.

<Assembly>

1) Reverse the disassembly procedure.
2) Tighten the eight screws of the mechanism board assembly in the order shown in the illustration.

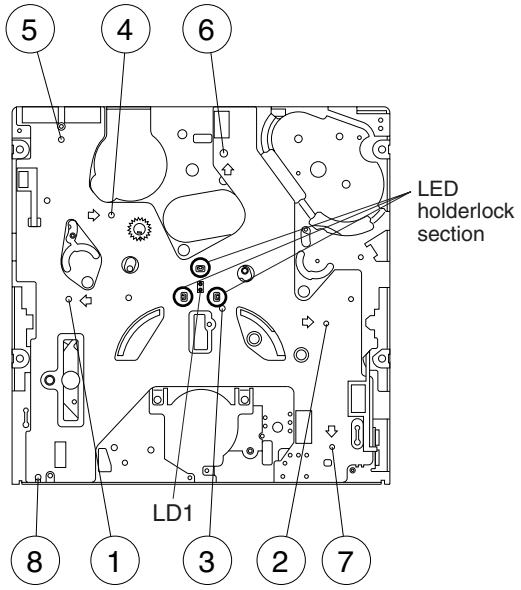


Fig. 2.6.27 (2) — Mechanism unit bottom side —

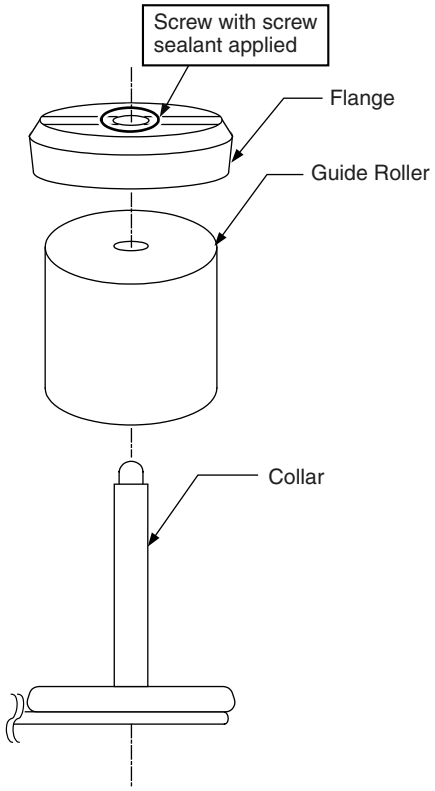
Note:

Makce sure the three claws locking of the LCD holder does not loosen.

No.	Item	Ref. Illustration	Procedure

2.7 GUIDE ROLLER REPLACEMENT METHOD

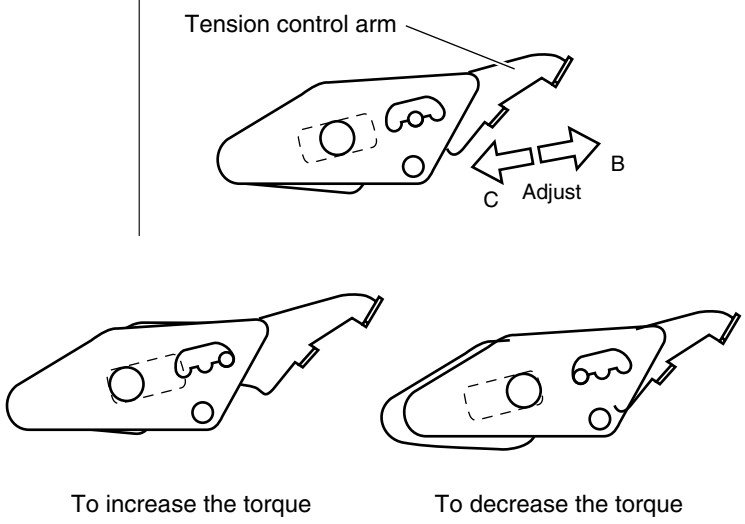
Since the SUP/TU tension arm assembly, sub deck assembly (ENT, G, roller section), and E.G.R. arm, have all undergone perpendicularity management after being assembled respectively, assembly replacement of these is not possible.
For maintenance, only the guide roller can be replaced.

No.	Item	Ref. Illustration	Procedure
1	Ⓓ **Guide roller replacement procedure for SUP/TU tension arm assembly and ENT.G. roller/E.G. roller arm assembly**	 **Fig. 2.7.1**	**<Removing>** 1) Remove the flange on the upper part of the guide roller as you would remove a screw. 2) Pull the guide roller upward and remove it. 3) Pull the collar upward and remove it. **<Installing>** 1) Proceed in the reverse order as when removing. 2) When fixing the flange in place, first tighten by hand until it stops, then tighten further using a securing torque of 0.04 N/m (0.4 kgf/cm). 3) After fixing in place, apply screw sealant to the screw on the upper end of the flange. **Note:** **When applying additional tightening force, avoid excessive force that may cause distortion of the arm section.**

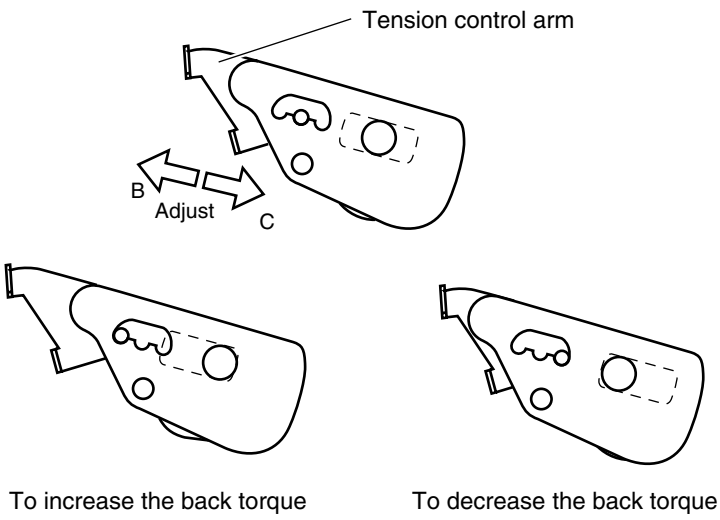
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure

2.8 TORQUE ADJUSTMENT

1	Supply back torque adjustment	Cassette torque meter YTU94150A	Play	◎ Supply side reading of cassette torque meter ☆ 6.5 $^{+1.0}_{-0.5}$ x 10^{-4} N·m	1) Insert the torque cassette meter YTU94150A and press the [PLAY] button. 2) Ensure that the SUP back torque value is within the specified range. (If the reading varies, read the center value.) 3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm. · To increase the torque → Move in direction B · To decrease the torque → Move in direction C. 4) Perform steps 1) and 2) above again and ensure that the SUP back torque value is within the specified range. If it is out of specification, check the <Supply tension band position adjustment> in 2.6.8 above.
2	Take-up wind torque adjustment	Cassette torque meter YTU94150A	PLAY, Adjustment menu No. 119	◎ Take-up side reading of cassette torque meter ☆ 11.5 $^{+1.0}_{-0.5}$ x 10^{-4} N·m	1) Select adjustment menu [119. FWD TORQUE]. **(For the adjustment menu, see 3.1.4, "Adjustment menu".)** 2) Insert the torque cassette meter YTU94150A and press the [PLAY] button. 3) Adjust the TU wind torque so that it is within the specified range. · Press SET (PAUSE) to enter the adjustment mode. · To increase the torque → Press ▲ (PLAY). · To decrease the torque → Press ▼ (STOP). 4) After adjustment, press SET (PAUSE) to store the adjustment data.



No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
3	Take-up back torque adjustment	Cassette torque meter KLJ0312	REV x 1	◎ Take-up side reading of cassette torque meter ☆ $6.5^{+1.0}_{-0.5}$ x 10^{-4} N·m	1) Insert the torque cassette meter KLJ0312 and enter REV x1 mode. 2) Ensure that the TU back torque value is within the specified range. (If the reading varies, read the center value.) 3) If the reading is out of specification, eject the cassette and adjust by moving the tension control arm. · To increase the torque → Move in direction B · To decrease the torque → Move in direction C. 4) Perform steps 1) and 2) above again and ensure that the TU back torque value is within the specified range. If it is out of specification, check the <Take-up tension band position adjustment> in 2.6.9 above.
4	SUP wind torque CHECK	Cassette torque meter KLJ0312	REV x 1	◎ Take-up side reading of cassette torque meter ☆ $11.5^{+1.5}_{-1.0}$ x 10^{-4} N·m	1) Insert the torque cassette meter KLJ0312 and enter REV x1 mode. 2) Ensure that the SUP wind torque is within the specified range. If it is out of specification, check the assembly condition of the reel drive parts.



2.9 INTERCHANGEABILITY ADJUSTMENT

2.9.1 Interchangeabilty adjustment flow chart

Fig. 2-8-1 shows the flow chart of compatibility adjustment.

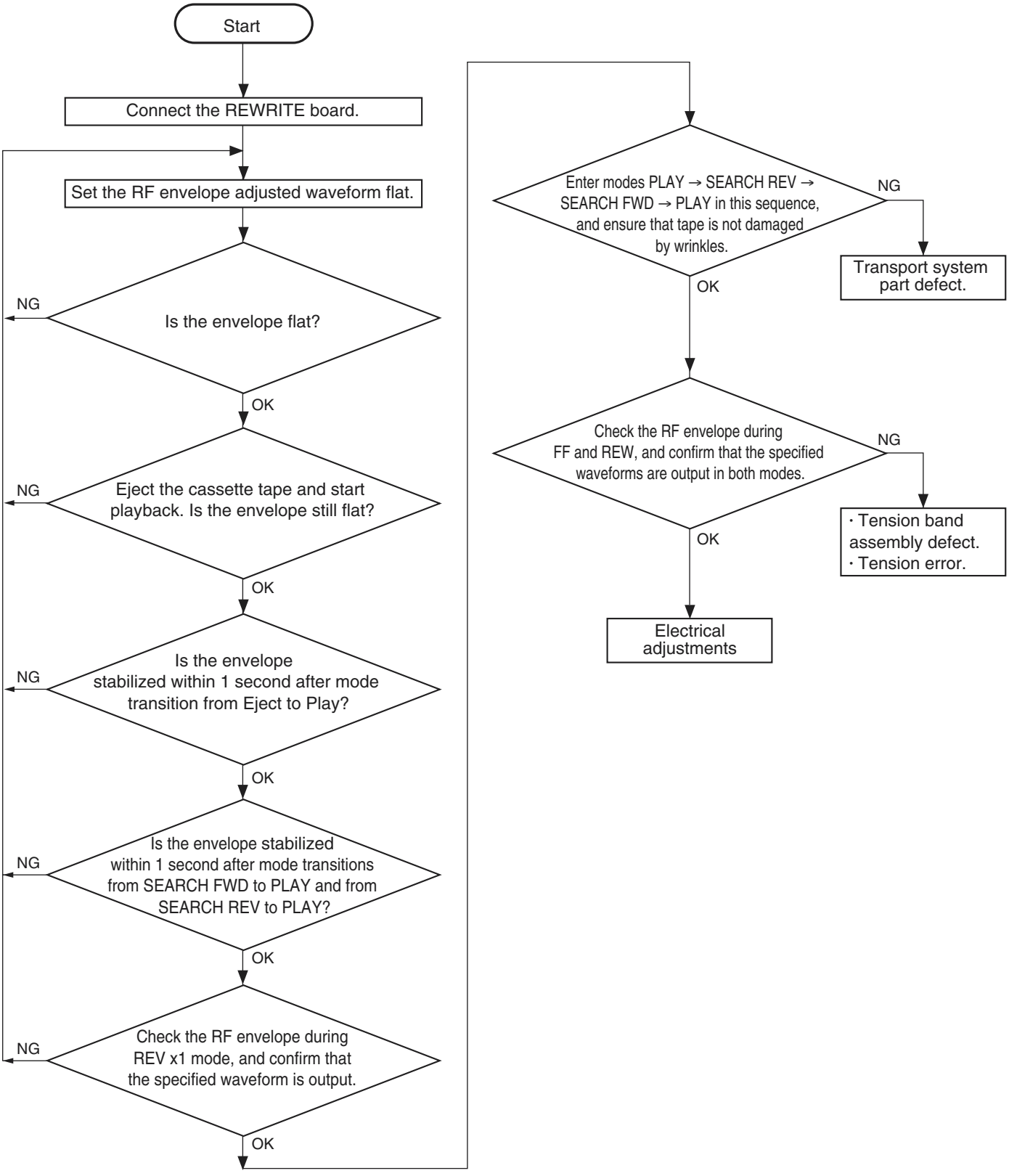

Start
Connect the REWRITE board.
Set the RF envelope adjusted waveform flat.
Is the envelope flat?
NG
OK
Eject the cassette tape and start playback. Is the envelope still flat?
NG
OK
Is the envelope stabilized within 1 second after mode transition from Eject to Play?
NG
OK
Is the envelope stabilized within 1 second after mode transitions from SEARCH FWD to PLAY and from SEARCH REV to PLAY?
NG
OK
Check the RF envelope during REV x1 mode, and confirm that the specified waveform is output.
NG
OK
Enter modes PLAY → SEARCH REV → SEARCH FWD → PLAY in this sequence, and ensure that tape is not damaged by wrinkles.
NG
Transport system part defect.
OK
Check the RF envelope during FF and REW, and confirm that the specified waveforms are output in both modes.
NG
· Tension band assembly defect.
· Tension error.
OK
Electrical adjustments

Fig. 2-9-1

2.9.2 Tape Transport Restriction

The unit uses only the SUP guide roller and TU guide roller to restrict the tape transport. The tape is free (no restriction) from other parts.

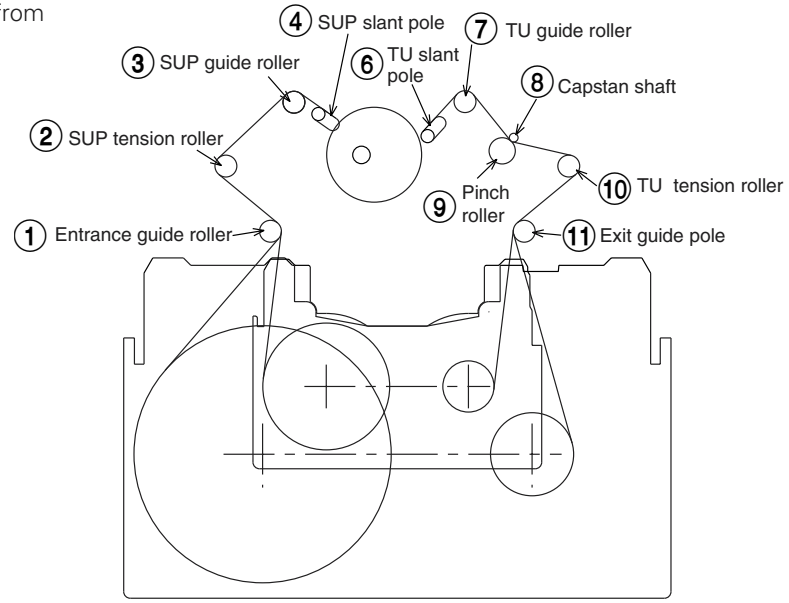


Fig. 2.9.2

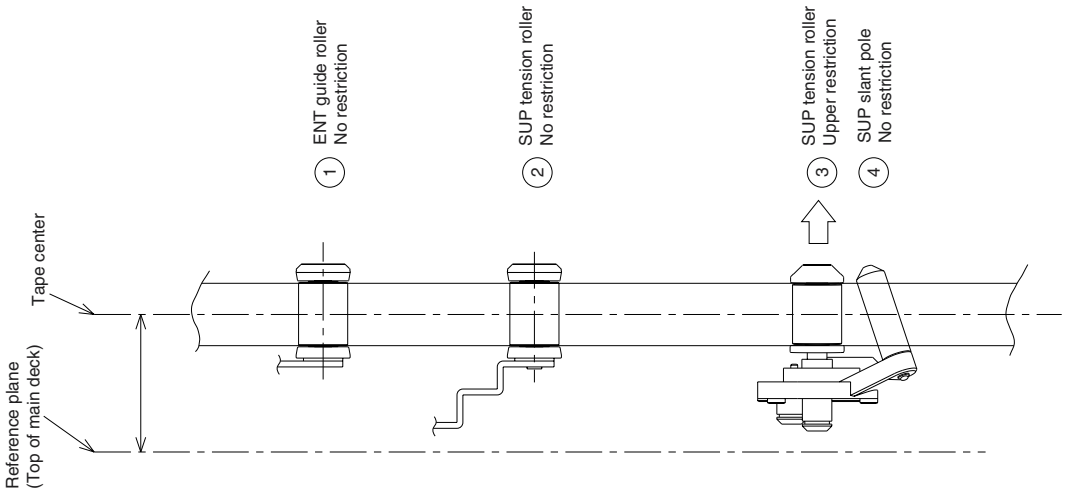

1 ENT guide roller No restriction
2 SUP tension roller No restriction
3 SUP tension roller Upper restriction
4 SUP slant pole No restriction
Tape center
Reference plane (Top of main deck)

Fig. 2.9.3 Tape Restriction on Supply Side

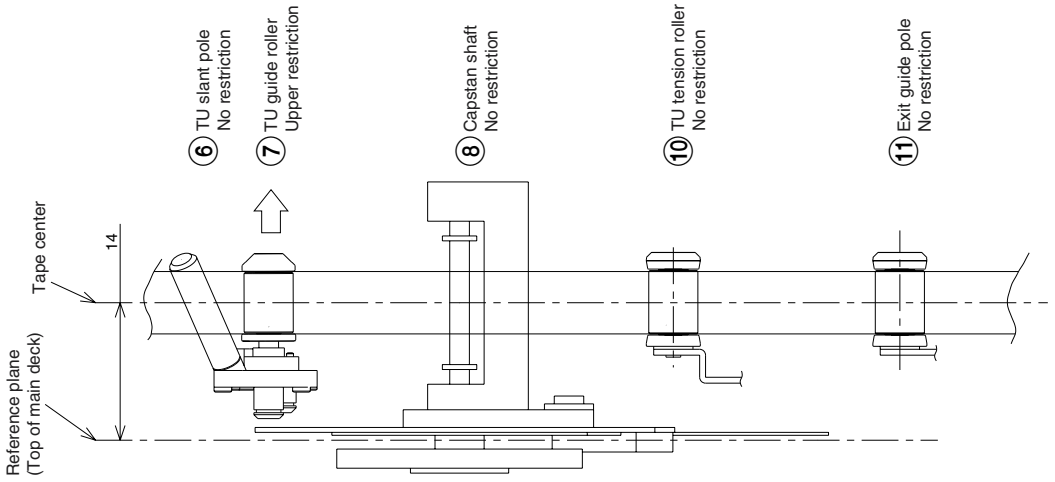

6 TU slant pole No restriction
7 TU guide roller Upper restriction
8 Capstan shaft No restriction
10 TU tension roller No restriction
11 Exit guide pole No restriction
Tape center
14
Reference plane (Top of main deck)

Fig. 2.9.4 Tape Restriction on Take-up Side

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (ⓣ) Adjustment level (☆)	Adjustment procedure

2.9.3 Interchangeability adjustment

1	Preparation				(1) Connect a REWRITE board to the CN4004 on the MAIN board. Refer to section 3 for more details. **Note:** **Be sure to clean the tape transport parts and play a cleaning tape before proceeding to the compatibility adjustment.**
2	RF envelope adjustment	• Oscilloscope, alignment tape MC-1(NTSC) MC-2(PAL) Color bar portion	Play	◎ TP9 ENV OUT [REWRITE board] ◎ TP5 HID [REWRITE board] ⓣ Supply guide roller ⓣ Take-up guide roller ☆ Make the waveforms flat. The drop level should be less than 3 dB with both SUP and TU levels. ☆ Flatness variation should be less than 2 dB.	(1) Play alignment tape color bar portion. (2) Observe the measuring points and adjust the supply guide roller and take-up guide roller so that the RF envelope is flat. (3) Set the mode to EJECT, then set to the PLAY mode and ensure that the RF envelope is flat.

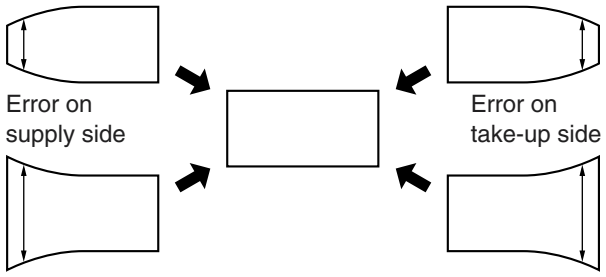


Fig. 2.9.5

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
3	Waveform rise check	• Oscilloscope, alignment tape MC-1(NTSC) MC-2(PAL) Color bar portion	Eject →Play Search FWD →Play Search REV → Play	◎ ENV OUT [REWRITE board] ◎ HID [REWRITE board] ☆The envelope waveform should be restored within 1 sec.	(1) Switch the mode from Eject → Play and ensure that the envelope is stabilized in less than 1 sec. (2) Switch the mode from Search FWD → Play and from Search REV → Play, and ensure that the envelope is stabilized in less than 1 sec. in both cases. (3) If the envelope does not stabilized in the specified period, fine-adjust the supply/take-up guide rollers as far as the envelope waveform specification is met, then restart checking from the above procedure (1) again.
4	Damage check	• Self-recorded/ played tape 60 ME 270ME	Play ↓ Search REV ↓ Search FWD ↓ Play	◎ ENV OUT [REWRITE board] ◎ HID [REWRITE board] ☆The tape should not be damaged by wrinkle.	(1) Transport the self-recorded/played Mini cassette tape from the beginning by changing modes in order of Play → Search REV → Search FWD → Play, and ensure that wrinkles due to strong restriction by the guide rollers and guide pole are not produced on tape. (2) Perform the same check at the section near the end of tape. (3) Make sure that no tape damage occurs when a tape is being loaded, unloaded or ejected. (4) Perform the same produre (1) — (3) with standard cassette.
5	Envelope check during FF/REW	• Oscilloscope, alignment tape MC-1(NTSC) MC-2(PAL) Color bar portion	FF REW	◎ ENV OUT [REWRITE board] ◎ HID [REWRITE board] ☆A > 55μsec. ☆B ≧ T/3	**This checking should be done after completing the switching point adjustment.** (1) Insert the alignment tape and enter Stop mode. (2) Enter FF mode. (3) Ensure that the envelope output is present at 55 μs before the HID switching timing. (4) Check the take-up side of the envelope to see that the MAX output duration is more than 1/3 the HID duration. (5) Enter REW mode and check the same items as (3) and (4) above. (6) If the envelope is out of specification, check the tension band and main brake assembly and replace as needed. Confirm the playback switching point.

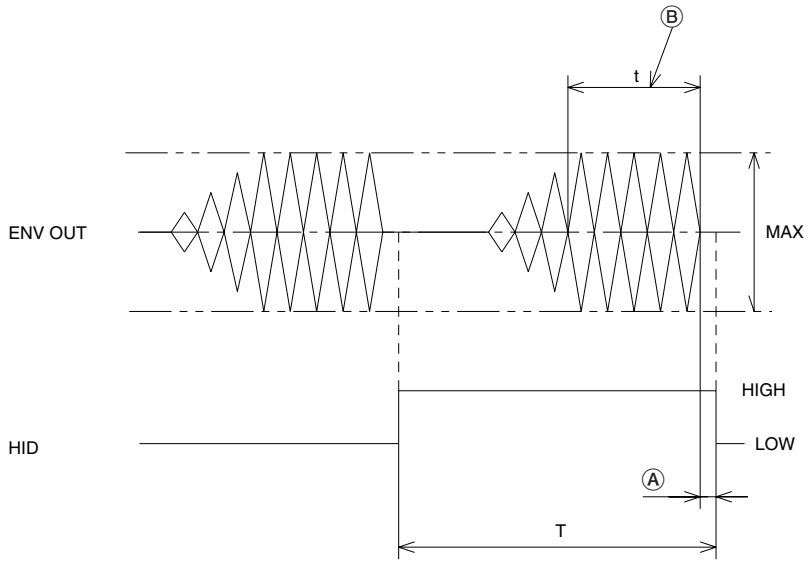


Fig. 2.9.6

SECTION 3
ELECTRICAL ADJUSTMENTS

3.1 PRECAUTIONS FOR ELECTRICAL ADJUSTMENTS

Electrical adjustments should be performed only when they are required, for example, during maintenance. Electrical adjustments that are possible only after mechanism adjustments should be performed after completing these. Before proceeding to perform electrical adjustments, be sure to warm up the unit for at least 10 minutes after turning it on.
Use the 10:1 probe with the oscilloscope unless otherwise specified.

3.1.1 Measuring instruments and Tools required for adjustments

(1) Measuring instruments
- Oscilloscope: 2-trace, 100 MHz or more.
- NTSC/PAL waveform monitor (WFM)
- NTSC/PAL Composite and Y/C video signal generator
- Frequency counter: 10 MHz or more, resolution 100 mV or less.
- Monitor TV

(2) Tools

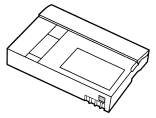
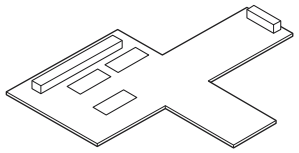
1	Alignment tape
MC-1 (NTSC) MC-2 (PAL)	
2	Rewrite board (Jig connector)
CK453800B	

Table 3-1-1

3.1.2 Alignment tape specifications

MC-1/MC-2

No.	Video signal	Audio signal	Time (min.)	Applications
1	Moving image	Moving image audio	10	Block noise check
2	Color bars	1 kHz	10	•Interchangeability adjustment •Video/audio play circuit check/adjustment

Table 3-1-2

3.1.3 Signals required for adjustments

NTSC and PAL color bar signals are required on "3.3 VIDEO SYSTEM ADJUTMENT".

NTSC:
100% color bars (100, 0, 100, 0) (Without SETUP)
100% color bars (100, 7.5, 100, 7.5) (With SETUP)
PAL:
100% color bars (100, 0, 100, 0) (PAL does not use SETUP.)

(1) Composite 100% color bars

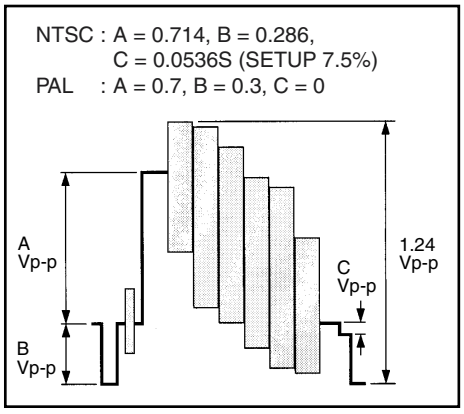
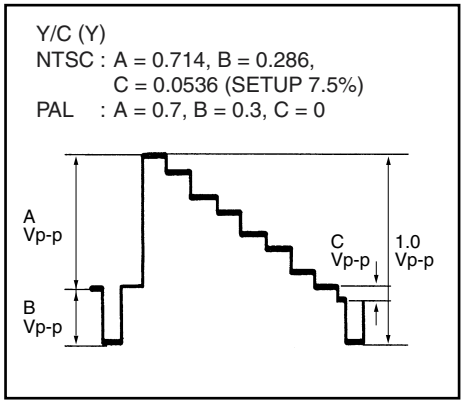


Fig. 3.1.3 (1)

(2) Y/C 100% color bars



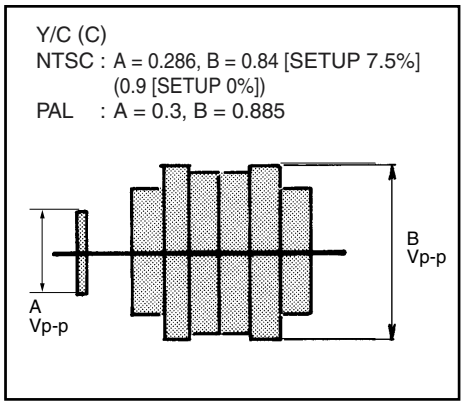


Fig. 3.1.3 (2)

3.1.4 Notes for adjustments

Since the BR-DV3000 is compatible with the recording and playback of the NTSC and PAL signals, it is required that both NTSC and PAL be adjusted.
The NTSC and PAL signals use different Y signal V/S ratios and color levels. Be sure to use the specified signals for the adjustments.

Both the NTSC and PAL signals use a variety of signals differing in the Y levels and color levels, etc. Also note that the NTSC signals include signals both with and without the Setup component.

The BR-DV3000 is provided with input and output level adjustment capabilities only. If a signal of the specified level for color and setup is not available, read the following for the substitution.

(1) Y level adjustments (Both of NTSC and PAL)
If the available Y signal contains a white level of 100 IRE (PAL: 0.7 Vp-p), the signal can be used in the adjustment as described in the given procedure.
If the input signal has the setup, adjust the luminance level from the pedestal to the white peak including the setup.

(2) Setup level adjustment (NTSC only)
The NTSC signal generator usually generates a signal with the Setup component. If it cannot be switched off, follow the alternative adjustment procedure for the signal with Setup, which is provided for each adjustment item.

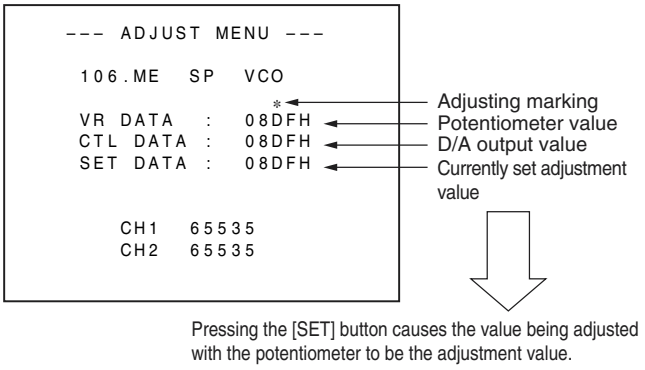
(3) Color level adjustments (Both of NTSC and PAL)
The chroma level is variable depending on whether it is 75% or 100% and on whether the Setup component is present (NTSC only). As a result, a correct adjustment is not possible unless the specified signal is used. If the specified signal is not available, refer to the following.

- Chroma level adjustment
  First measure the input signal what the signal type is (Refer to the table 3.1.4). Then apply the signal (composite or Y/C) to the BR-DV3000 and adjust the output signal level equal to the input type level.
- Burst level adjustment
  The burst level is identical for all signals. There will be no problem if it can be adjusted to NTSC: 0.286 Vp-p (PAL: 0.3 Vp-p). There is no problem whether or not the Setup component is present (NTSC only).

3.1.5 Adjustment menu

(1) Operation method
Use the ADJUST MENU for adjustments. The operating method is as follows.

① Make sure of no cassette in the VTR. While holding the [REW] and [FF] buttons, press the [OPERATE] button to turn the unit on.
② When the unit is turned on, press and hold the [EJECT] button for about 2 seconds until the ADJUST MENU is displayed.
③ Press the [SET] (PAUSE) button so that the "*" marking blinks and, while observing the specified TP, the measuring instrument and others, press the ▲ (PLAY) button or ▼ (STOP) button to adjust the value to the specified value.
(Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ±10 steps.)


--- ADJUST MENU ---
106.ME SP VCO
*
VR DATA : 08DFH
CTL DATA : 08DFH
SET DATA : 08DFH
CH1 65535
CH2 65535
Adjusting marking
Potentiometer value
D/A output value
Currently set adjustment value
Pressing the [SET] button causes the value being adjusted with the potentiometer to be the adjustment value.

④ After completing the adjustment, press the [SET] (PAUSE) button again to turn the "*" marking off and store the adjustment value. (The adjustment value is not stored unless the [SET] (PAUSE) button is pressed.)
④ Press the ► (FF) or ◄ (REW) button to select the next adjustment item.

Notes:
- When the adjustment procedure requires a mode transition to PLAY, etc., use the accessory of wireless remote controller.
- After completing all of the required settings, press and hold the MENU [EJECT] button until the ADJUST MENU disappears.
- To return to normal operating status, turn the unit off then on again. If this is not performed, since the unit is turned on in the adjustment mode, pressing the MENU button displays an adjustment menu and it is not possible to display the normal operation menu.

[NTSC]

Type	Y level [mVp-p]	White [mV]	Sync [mV]	Setup [mV]	Burst [mVp-p]	YL/B [mVp-p]	CY/R [mVp-p]	G/MG [mVp-p]
Y 100%, color 100% level, setup 0%	1000	714	286	0	286	640	908	848
Y 100%, color 100% level, setup 7.5%	1000	714	286	53.6	286	592	836	780
Y 100%, color 75% level, setup 0%	1000	714	286	0	286	480	681	636
Y 100%, color 75% level, setup 7.5%	1000	714	286	53.6	286	444	627	585

[PAL]

Type	Y level [mVp-p]	White [mV]	Sync [mV]	Burst [mVp-p]	YL/B [mVp-p]	CY/R [mVp-p]	G/MG [mVp-p]
Y 100%, color 100% level	1000	700	300	300	627	885	827
Y 100%, color 75% level	1000	700	300	300	471	664	620

YL/B: Yellow and Blue level. CY/R: Cyan and Red level. G/MG: Green and Magenta level.
Table 3.1.4

(2) Adjustment items and initial data

The initial values are merely the typical values, which are written automatically after the EEP-ROM replacement, etc. As the adjustments will not be correct if these values are left, be sure to perform actual adjustments before use.

The hatched rows in the following table indicate that adjustments are not necessary so, do not change the value of the initial settings.

No.	Adjustment item (OSD characters)	Initial value (CTL DATA)	Adjustment range
100	PB SW POINT	Auto adjustment	0000H~FFFFH
105	ME REC CURRENT	121	0~255
106	ME SP VCO	0890(Hex)	0000H~FFFFH
107	ME LP VCO	0892(Hex)	0000H~FFFFH
110	FS PLL 48kHz	25	0~255
111	FS PLL 44.1kHz	83	0~255
112	FS PLL 32kHz	25	0~255
113	27MHz VCO	143	0~255
114	ATF GAIN	110	0~255
115	AGC GAIN	132	0~255
116	DUMP CTL	68	0~255
117	PB VCO	128	0~255
118	BGNEND SENS	18	0~255
119	FWD TORQUE	192	0~255
120	REV TORQUE	192	0~255
121	UNLOAD TORQUE	72	0~255
200	OSD ADJ	53	0~255
210	PB Y LEV(S OFF)	129	0~255
211	PB SETUP LEV(S OFF)	192	192~207
212	PB SYNC LEV(S OFF)	89	0~255
213	PB C LEV(S OFF)	95	0~255
214	PB BUR LEV(S OFF)	205	0~255
215	YC REC Y LEV(S OFF)	94	0~255
216	YC REC ST LV(S OFF)	9	0~127
217	YC REC C LEV(S OFF)	0	-16~15
218	LE REC Y LEV(S OFF)	92	0~255
219	LE REC ST LV(S OFF)	8	0~127
220	LE REC C LEV(S OFF)	0	-16~15
221	YC EE Y LEV(S OFF)	96	0~255
222	YC EE C LEV(S OFF)	174	0~255
223	LE EE Y LEV(S OFF)	95	0~255

No.	Adjustment item (OSD characters)	Initial value (CTL DATA)	Adjustment range
224	LE EE C LEV(S OFF)	152	0~255
230	PB Y LEV(S ON)	119	0~255
231	PB SETUP LEV(S ON)	201	192~207
232	PB SYNC LEV(S ON)	118	0~255
233	PB C LEV(S ON)	87	0~255
234	PB BUR LEV(S ON)	200	0~255
235	YC REC Y LEV(S ON)	94	0~255
236	YC REC ST LV(S ON)	34	0~127
237	YC REC C LEV(S ON)	1	-16~15
238	LE REC Y LEV(S ON)	91	0~255
239	LE REC ST LV(S ON)	31	0~127
240	LE REC C LEV(S ON)	2	-16~15
241	YC EE Y LEV(S ON)	95	0~255
242	YC EE C LEV(S ON)	172	0~255
243	LE EE Y LEV(S ON)	96	0~255
244	LE EE C LEV(S ON)	149	0~255
260	PB Y LEV(PAL)	127	0~255
261	PB SETUP LEV(PAL)	0	0~16
262	PB SYNC LEV(PAL)	94	0~255
263	PB C LEV(PAL)	95	0~255
264	PB BUR LEV(PAL)	29	0~255
265	YC REC Y LEV(PAL)	104	0~255
266	YC REC ST LV(PAL)	3	0~127
267	YC REC C LEV(PAL)	-16	-16~15
268	LE REC Y LEV(PAL)	101	0~255
269	LE REC ST LV(PAL)	2	0~127
270	LE REC C LEV(PAL)	-16	-16~15
271	YC EE Y LEV(PAL)	94	0~255
272	YC EE C LEV(PAL)	233	0~255
273	LE EE Y LEV(PAL)	93	0~255
274	LE EE C LEV(PAL)	206	0~255

Table 3.1.5 Adjustment menu items

3.2 DVC UNIT ADJUSTMENTS

Preparation : Connect the Rewrite board (CK453800B) to CN4004 on the Main board. Connect it in the orientation shown in Fig. 3.2, so that the test point surface (component mounting surface) faces toward the rear.

NOTE : DVC UNIT ADJUSTMENTS can be completed if either of NTSC or PAL mode is performed.
Set the NTSC/PAL switch of the rear panel to your signal environment.

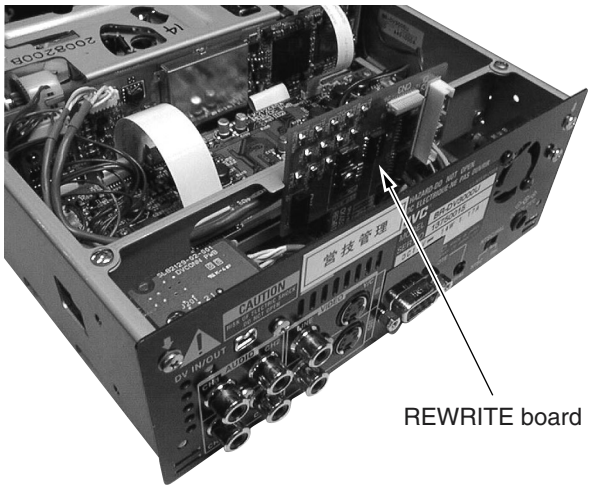


Fig. 3.2 Rewrite board connection method

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
1	PB switching point adjustment	Alignment tape, NTSC: MC-1 or PAL: MC-2 color bar recorded section	• PLAY • ADJUST MENU, 100. PB SW POINT	◎ TP6 (SPA) ◎ TP9 (ENV OUT) TRIG: TP5 (HID) GND: TP1 (GND) [Rewrite board] ⇧ Auto adjustment ☆ a and b = 126 μs sec ± 10 μs sec	(1) Select ADJUST MENU No. 100, "PB SW POINT". (2) Play the alignment tape. Ensure that the compatibility adjustment has been performed and the FM waveform at TP9 (ENV OUT) is flat and stable. (3) Press the SELECT dial button to cause the * marking to blink. The PB switching point will be adjusted automatically.

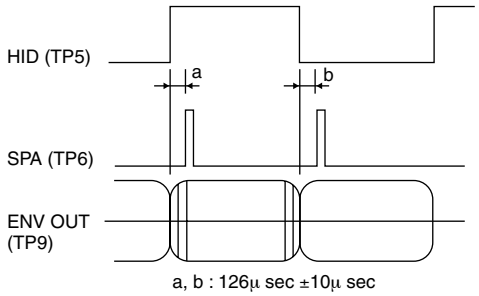


Fig. 3.2.1(1)

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (↑) Adjustment level (☆)	Adjustment procedure
					(4) Measure TP6 (SPA) by triggering TP5 (HID) and confirm that the values a and b are within the specified ranges. (5) Press the [PLAY] button a few times to display the adjustment data in the "DATA:" field. (The DATA value should not be 00000000 or FFFFFFFF.) (6) Press the [SET] button to store the adjustment data. **NOTE:** **Make sure that the data value is displayed before pressing the [SET] button. If this adjustment is completed before the data value is displayed the adjustment value will not be put into the memory.**
2	ME recording current adjustment		• REC • ADJUST MENU, 105. ME REC CURRENT	◎ Monitor display ↑ [PLAY] and [STOP] buttons ☆ SET DATA = 115	(1) Select ADJUST MENU No. 105, "ME REC CURRENT" and enter REC mode. (2) Check the set data so that the value is "115" (Recording current is approx. 360 mVp-p) If not, adjust the value to "115" (3) Press the [SET] button to store the adjustment data.

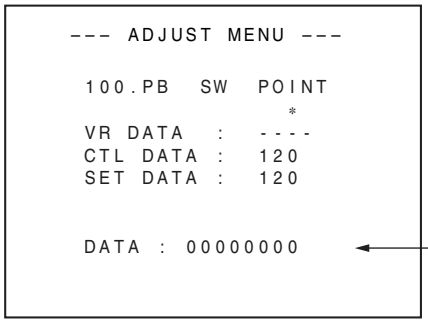

--- ADJUST MENU ---
100.PB SW POINT
*
VR DATA : ----
CTL DATA : 120
SET DATA : 120
DATA : 00000000
Press the [PLAY] button a few times to display data.
After displaying the data, press the [SET] button to complete the adjustment.

Fig. 3.2.1(2)

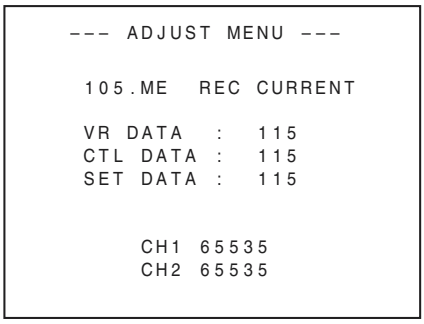


Fig. 3.2.2

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
3	ME SP VCO offset adjustment (Error rate adjustment)	Recording tape (brand-new tape) Moving Picture	• Self-REC/ PLAY • ADJUST MENU, 106. ME SP VCO	◎ Monitor display ⇧ [PLAY] and [STOP] buttons ☆ Minimum error rate, which should be = 498 (per CH). (Viterbi : OFF)	**(Notes)** • **Be sure to use a brand-new tape for the ME SP VCO offset adjustment.** • **Be sure to clean the tape with a head cleaning tape before adjustment.** • **The error rate should be measured with the Viterbi OFF. The Viterbi is switched OFF automatically when the adjustment mode is entered.** • **The error rate value is displayed in decimal form.** (1) Record a moving image in advance on the NEW recording tape for 5 minutes. (2) Select ADJUST MENU No. 106, "ME SP VCO". (3) Play the recorded tape, press the [PLAY] or [STOP] button to minimize the adjustment EVR data and freeze the image. (Pressing the [A.DUB] button simultaneously with the ▲ or ▼ button varies the adjustment value by ±10 steps.) (4) Increase the EVR data gradually until the block noise disappears. The current value is the adjustment value "A". (5) Play the recorded tape and press either the [PLAY] or [STOP] button (the one that was not used above,) in order to maximize the EVR data and freeze the image. (6) Decrease the EVR data gradually until the block noise disappears. The current value is the adjustment value "B". (7) Calculate the intermediate value between the "A" and "B" values. (Since the adjustment values are hex numbers, use a functional computation-capable calculator or the PC calculator provided in Accessories.) C = (A + B)/2 Set value "C" as the adjustment value. (8) Play the recorded tape again, ensure that the error rate is no more than the specified value. (9) Press the [SET] button to store the adjustment data.

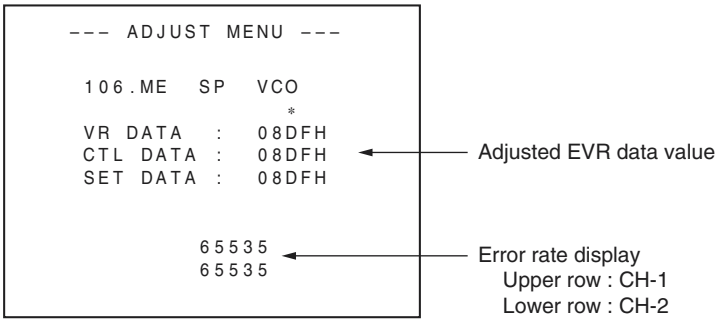


Fig. 3.2.3 (1) SP VCO Offset Menu

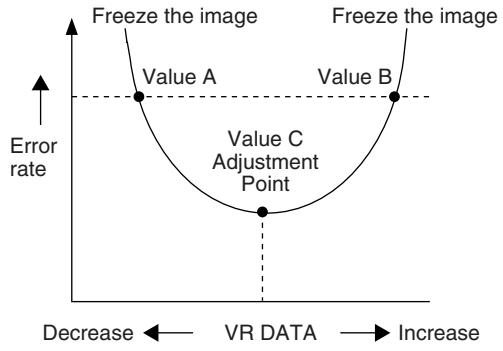


Fig. 3.2.3 (2) Consept of the adjustment

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	FS PLL 48 kHz adjustment	Frequency counter No input	EE ADJUST MENU, 110. FS PLL 48 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ⇧ [PLAY] and [STOP] buttons ☆ 12.288 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 110, "FS PLL 48 kHz". (2) Adjust the frequency to the specified level. (3) Press the [SET] button to store the adjustment data.
5	FS PLL 44.1 kHz adjustment	Frequency counter No input	EE ADJUST MENU, 111. FS PLL 44.1 kHz	◎ TP4 (FS PLL) GND: TP1 (GND) [Rewrite board] ⇧ [PLAY] and [STOP] buttons ☆ 11.2896 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 111, "FS PLL 44.1 kHz". (2) Adjust the frequency to the specified level. (3) Press the [SET] button to store the adjustment data.
6	FS PLL 32 kHz adjustment	No input.	EE ADJUST MENU,112. FS PLL 32 kHz	◎ Monitor display ⇧ [PLAY] and [STOP] buttons ☆ Value adjusted in No. 110, "FS PLL 48 kHz" in item 4 above.	(1) Select ADJUST MENU No. 112, "FS PLL 32 kHz". (2) Adjust to the same value as the FS PLL 48 kHz adjustment value. (Setting range: 0 to 255) (3) Press the [SET] button to store the adjustment data.
7	27 MHz VCO center frequency adjustment	Frequency counter No input	EE ADJUST MENU,113. 27 MHz VCO	◎ TP7 (MAIN VCO) GND: TP1 (GND) [Rewrite board] ⇧ [PLAY] and [STOP] buttons ☆ 13.5 MHz ± 0.1 MHz	(1) Select ADJUST MENU No. 113, "27 MHz VCO". (2) Adjust the frequency to the specified level. (3) Press the [SET] button to store the adjustment data.

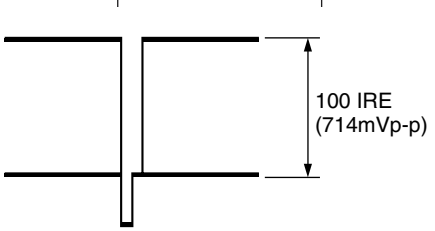
3.3 VIDEO SYSTEM ADJUSTMENTS

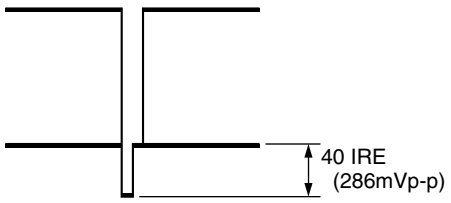
- Use NTSC signals for the NTSC adjustments and PAL signals for the PAL adjustments.
- Use the specified signals to make adjustments whenever possible. When there are no specified signals, please refer to the "3.1.4 Notes for adjustments".
- The monitor image may fluctuate horizontally during adjustments. This phenomenon occurs only in the adjustment mode and does not affect the adjustment results.
- When an item is selected in the ADJUST MENU and INPUT SELECT SW sets to LINE or Y/C, the INPUT SELECT is switched automatically according to the selected item. If DV input is selected, disable automatic selection.

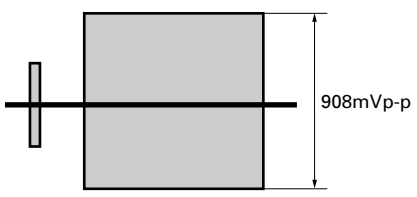
(1) NTSC circuit adjustments

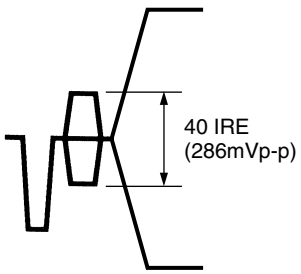
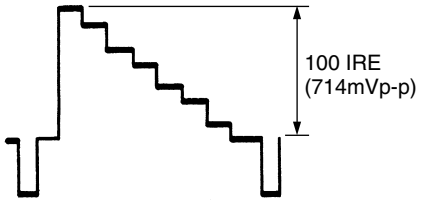
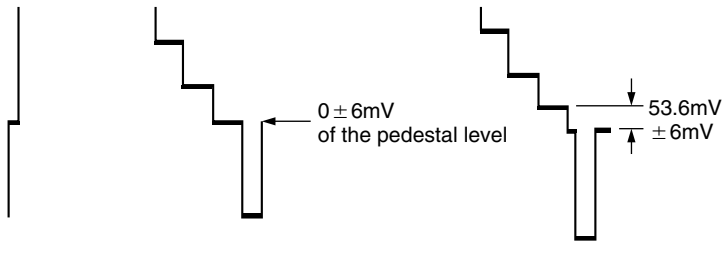
Set the [NTSC/PAL] switch of rear panel to "NTSC".

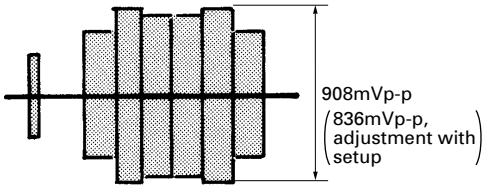
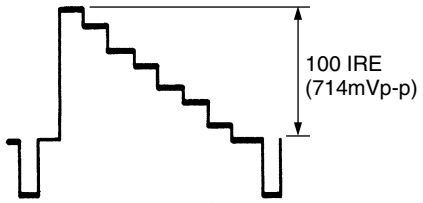
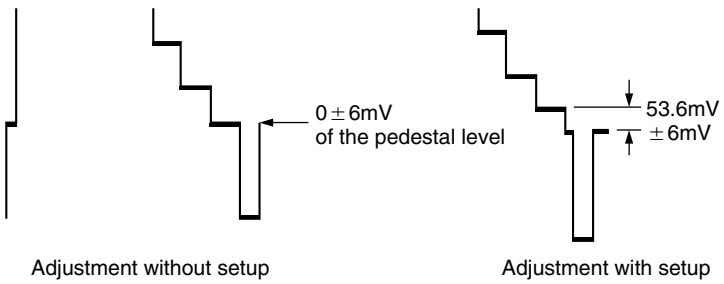
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⏧) Adjustment level (☆)	Adjustment procedure
1	NTSC PB Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 210. PB Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 210, "PB Y LEV (S OFF)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
2	NTSC PB SYNC level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 212. PB SYNC LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 212, "PB SYNC LEV (S OFF)". (3) Adjust so that the difference from the pedestal to the sync tip is as specified. (4) Press the [SET] button to store the adjustment data.
3	NTSC PB Chroma level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 213. PB C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⏧ [PLAY] and [STOP] buttons ☆ 908 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 213, "PB C LEV (S OFF)". (3) Adjust so that the chroma level is as specified. (4) Press the [SET] button to store the adjustment data.

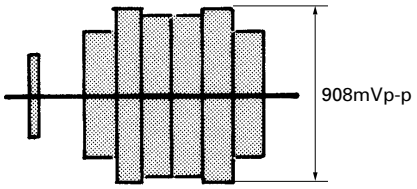
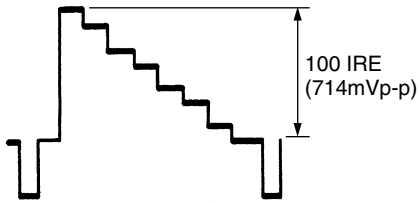
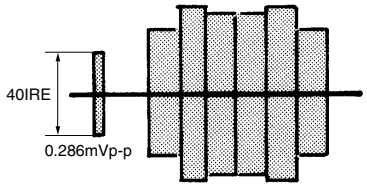


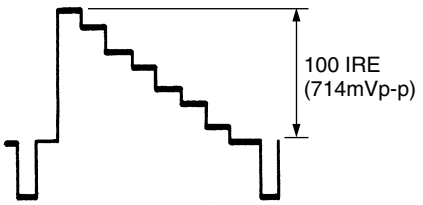
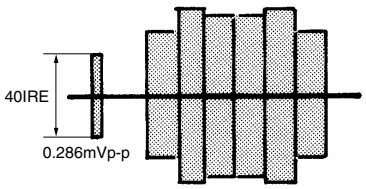
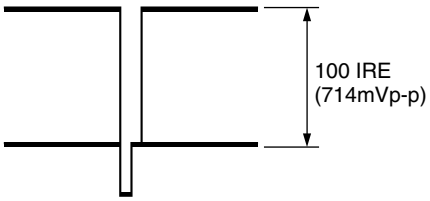


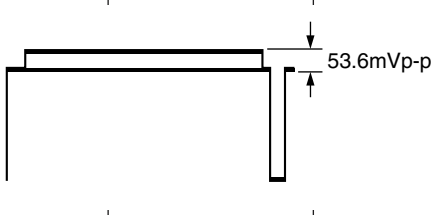
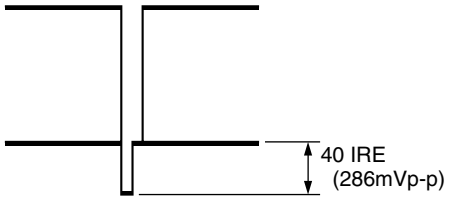
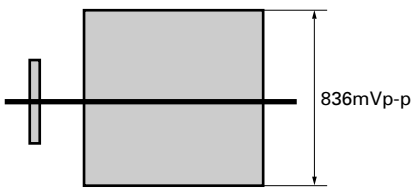


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
4	NTSC PB BURST level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 214. PB BUR LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 214, "PB BUR LEV (S OFF)". (3) Adjust so that the burst level is as specified. (4) Press the [SET] button to store the adjustment data.
					
5	NTSC Y/C IN REC Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 215. YC REC Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 215, "YC REC Y LEV (S OFF)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
					
6	NTSC Y/C IN REC SETUP level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 216. YC REC ST LV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 216, "YC REC ST LV (S OFF)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 215, "YC REC Y LEV (S OFF)". If it is deviated, adjust it again. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.**
					

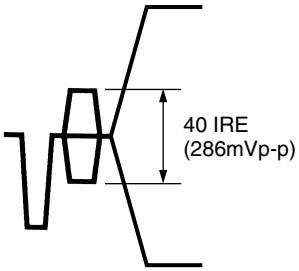
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
7	NTSC Y/C IN REC C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 217. YC REC C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 908 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 217, "YC REC C LEV (S OFF)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).**
					
8	NTSC LINE IN REC Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 218. LE REC Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 218, "LE REC Y LEV (S OFF)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
					
9	NTSC LINE IN REC SETUP level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 219. LE REC ST LV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 219, "LE REC ST LV (S OFF)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 218, "LE REC Y LEV (S OFF)". If it is deviated, adjust it again. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the setup level to 53.6 mV ± 6 mV.**
					

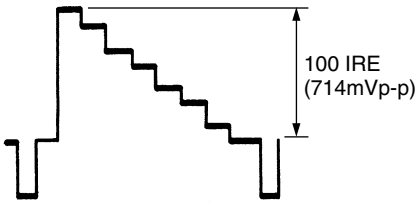
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
10	NTSC LINE IN REC C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 220. LE REC C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 908 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 220, "LE REC C LEV (S OFF)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If 7.5% signal setup should be used, the same effect as this adjustment can be obtained by adjusting the color level to 836 mV p-p (100% color).**
					
11	NTSC Y/C IN EE Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 221. YC EE Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 221, "YC EE Y LEV (S OFF)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.**
					
12	NTSC Y/C IN EE C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 222. YC EE C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 222, "YC EE C LEV (S OFF)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.
					

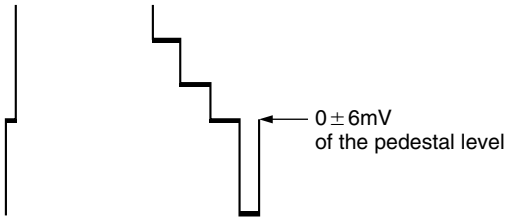
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⏧) Adjustment level (☆)	Adjustment procedure
13	NTSC LINE IN EE Y level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 223. LE EE Y LEV (S OFF)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 223, "LE EE Y LEV (S OFF)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Reference:** **If a 7.5% setup signal should be used, the same effect as this adjustment can be obtained by simply ignoring the setup level.**
					
14	NTSC LINE IN EE C level adjustment (SETUP OFF)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SETUP 0%)	EE ADJUST MENU, 224. LE EE C LEV (S OFF)	◎ C OUT (Y/C jack) (75 Ω terminated) ⏧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 224, "LE EE C LEV (S OFF)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.
					
15	NTSC PB Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 230. PB Y LEV (S ON)C LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 230, "PB Y LEV (S ON)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
					

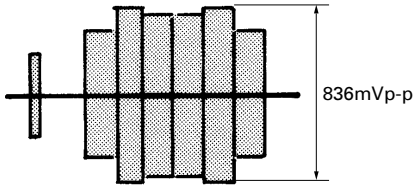
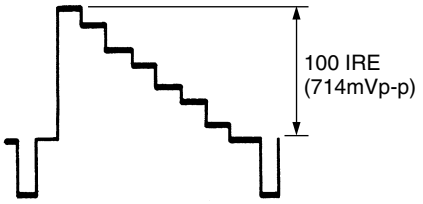
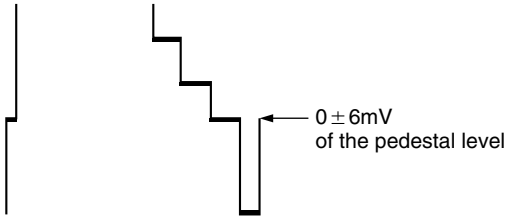
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
16	NTSC PB SETUP level adjustment (SETUP ON) 	WFM (NTSC) or oscilloscope BLACK BURST (built-in signal)	EE ADJUST MENU, 231. PB SETUP LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 53.6 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 231, "PB SETUP LEV (S ON)". (3) Adjust so that the SETUP levels are as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 230, "PB Y LEV (S ON)" in item 15 above. If it is deviated, adjust it again.
17	NTSC PB SYNC level adjustment (SETUP ON) 	WFM (NTSC) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 232. PB SYNC LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 232, "PB SYNC LEV (S ON)". (3) Adjust so that the sync level is as specified. (4) Press the [SET] button to store the adjustment data.
18	NTSC PB C level adjustment (SETUP ON) 	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 233. PB C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 233, "PB C LEV (S ON)". (3) Adjust so that the RED color level is as specified. (4) Press the [SET] button to store the adjustment data.

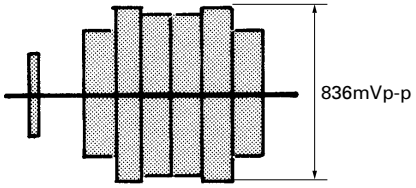
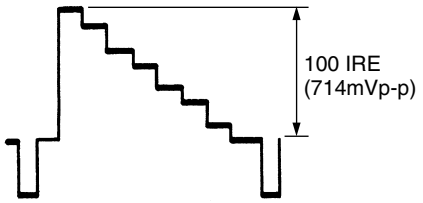
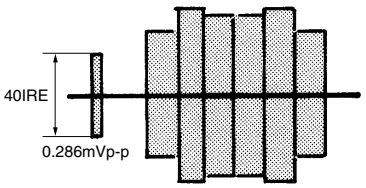
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⏉) Adjustment level (☆)	Adjustment procedure
19	NTSC PB BURST level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 234. PB BUR LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 234, "PB BUR LEV (S ON)". (3) Adjust so that the burst level is as specified. (4) Press the [SET] button to store the adjustment data.
20	NTSC Y/C In REC Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 235. YC REC Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 235, "YC REC Y LEV (S ON)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
21	NTSC Y/C IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 236. YC REC ST LV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 236, "YC REC ST LV (S ON)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 235, "YC REC Y LEV (S ON)" in item 20 above. If it is deviated, adjust it again.



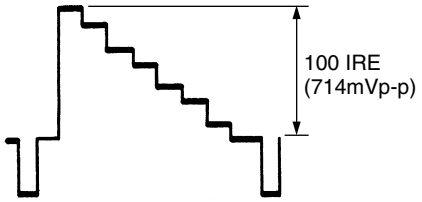


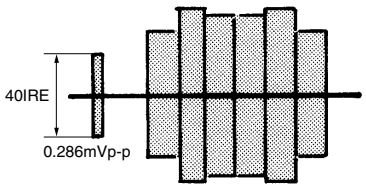


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
22	NTSC Y/C IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 237. YC REC C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 237, "YC REC C LEV (S ON)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
					
23	NTSC LINE IN REC Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 238. LE REC Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 238, "LE REC Y LEV (S ON)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
					
24	NTSC LINE IN REC SETUP level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 239. LE REC ST LV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 239, "LE REC ST LV (S ON)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data.
					

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
25	NTSC LINE IN REC C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (SET UP 7.5 %)	EE ADJUST MENU, 240. LE REC C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 836 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 240, "LE REC C LEV (S ON)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
					
26	NTSC Y/C IN EE Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 241. YC EE Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 241, "YC EE Y LEV (S ON)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
					
27	NTSC Y/C IN EE C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope Y/C IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 242. YC EE C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 242, "YC EE C LEV (S ON)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.
					

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
28	NTSC LINE IN EE Y level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 243. LE EE Y LEV (S ON)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 100 IRE (714 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 243, "LE EE Y LEV (S ON)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
29	NTSC LINE IN EE C level adjustment (SETUP ON)	WFM (NTSC) or oscilloscope LINE IN. NTSC 100% color bar (Setup 7.5%)	EE ADJUST MENU, 244. LE EE C LEV (S ON)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 40 IRE (286 mVp-p)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 244, "LE EE C LEV (S ON)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

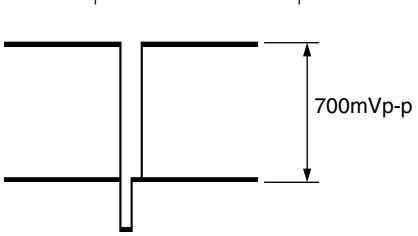
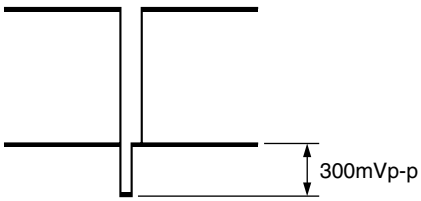




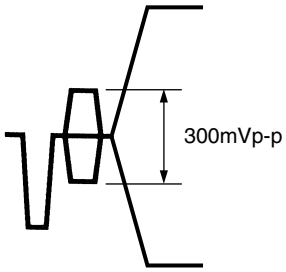
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure

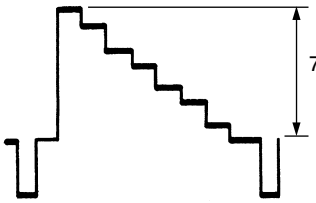
(2) PAL circuit adjustments

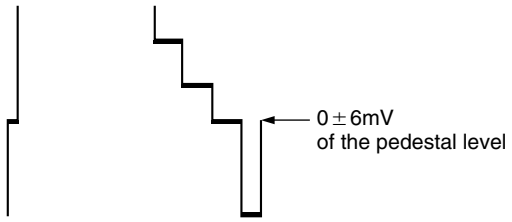
Set the [NTSC /PAL] switch of rear panel to "PAL".

30	PAL PB Y level adjustment	WFM (PAL) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 280. PB Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 260, "PB Y LEV (PAL)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data. **Note:** **When this item is selected after an NTSC adjustment item, the built-in 100% WHITE signal may sometimes be unable to be output. In this case, select No. 262, "PB SYNC LEV (PAL)" and then select No. 260, "PB Y& LEV (PAL)" again.**
					
31	PAL PB SYNC level adjustment	WFM (PAL) or oscilloscope 100% WHITE (built-in signal)	EE ADJUST MENU, 262. PB SYNC LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 262, "PB SYNC LEV (PAL)". (3) Adjust so that the sync level is as specified. (4) Press the [SET] button to store the adjustment data.
					
32	PAL PB C level adjustment	WFM (PAL) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 263. PB C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ◎ [PLAY] and [STOP] buttons ☆ 885 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 263, "PB C LEV (PAL)". (3) Adjust so that the color levels are as specified. (4) Press the [SET] button to store the adjustment data.

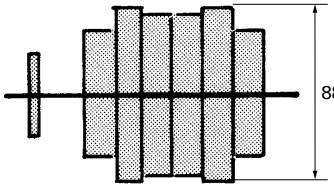
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⏉) Adjustment level (☆)	Adjustment procedure
33	PAL PB BURST level adjustment	WFM (PAL) or oscilloscope RED raster (built-in signal)	EE ADJUST MENU, 264. PB BUR LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 264, "PB BUR LEV (PAL)". (3) Adjust so that the burst level is as specified. (4) Press the [SET] button to store the adjustment data.
34	PAL Y/C IN REC Y level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 265. YC REC Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 265, "YC REC Y LEV (PAL)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
35	PAL Y/C IN REC SETUP level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 266. YC REC ST LV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 266, "YC REC ST LV (PAL)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 265, "YC REC Y LEV (PAL)" in item 34 above. If it is deviated, adjust it again.

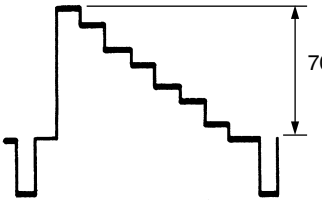


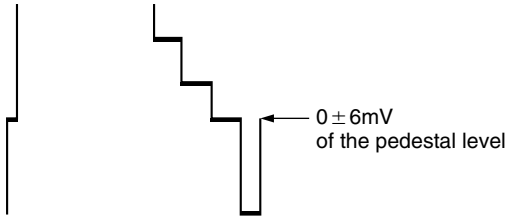




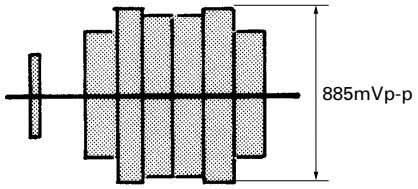
No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
36	PAL Y/C IN REC C level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 267. YC REC C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 885 mVp-p (RED)	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 267, "YC REC C LEV (PAL)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
37	PAL LINE IN REC Y level adjustment	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 268. LE REC Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 268, "LE REC Y LEV (PAL)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
38	PAL LINE IN REC SETUP level adjustment	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 269. LE REC ST LV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 0 ± 6 mV of the pedestal level	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 269, "LE REC ST LV (PAL)". (3) Adjust so that the setup level is as specified. (4) Press the [SET] button to store the adjustment data. (5) Check ADJUST MENU No. 268, "LE REC Y LEV (PAL)" in item 37 above. If it is deviated, adjust it again.

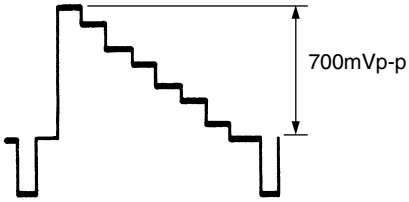


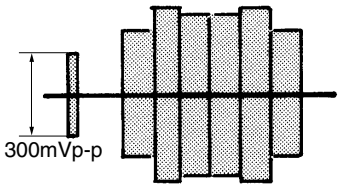


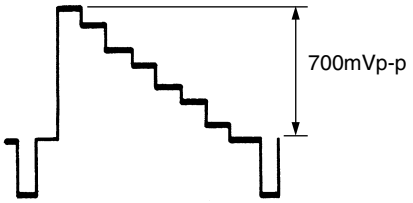
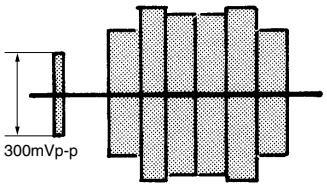


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⏉) Adjustment level (☆)	Adjustment procedure
39	PAL LINE IN REC C level adjustment	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 270. LE REC C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 885 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 270, "LE REC C LEV (PAL)". (3) Adjust so that the RED color levels are as specified. (4) Press the [SET] button to store the adjustment data.
40	PAL Y/C IN EE Y level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 271. YC EE Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 271, "YC EE Y LEV (PAL)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
41	PAL Y/C IN EE C level adjustment	WFM (PAL) or oscilloscope Y/C IN PAL 100% color bar	EE ADJUST MENU, 272. YC EE C LEV	◎ C OUT (Y/C jack) (75 Ω terminated) ⏉ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 272, "YC EE C LEV (PAL)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.

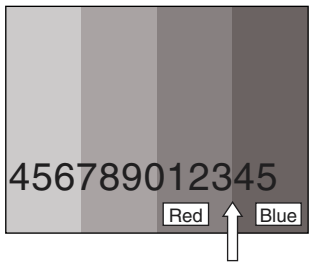




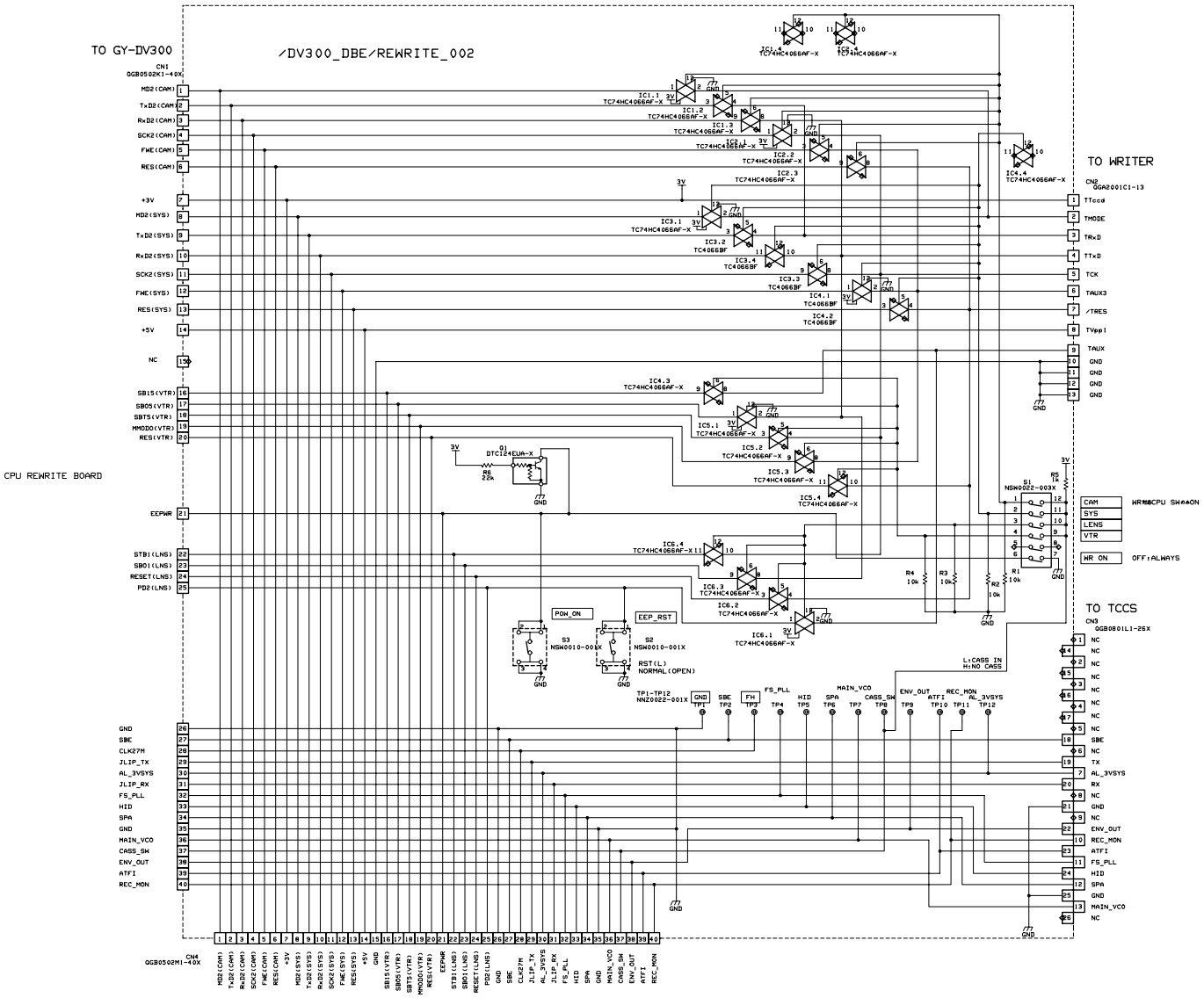


No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
42	PAL LINE IN EE Y level adjustment	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 273. LE EE Y LEV (PAL)	◎ Y OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 700 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 273, "LE EE Y LEV (PAL)". (3) Adjust so that the difference from the pedestal to 100% WHITE is as specified. (4) Press the [SET] button to store the adjustment data.
					
43	PAL LINE IN EE C level adjustment	WFM (PAL) or oscilloscope LINE IN PAL 100% color bar	EE ADJUST MENU, 274. LE EE C LEV (PAL)	◎ C OUT (Y/C jack) (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ 300 mVp-p	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 274, "LE EE C LEV (PAL)". (3) Adjust so that the burst levels are as specified. (4) Press the [SET] button to store the adjustment data.
					

(3) On-screen display adjustment

No.	Item	Measuring instruments & Input signals	Mode	Measuring point (◎) Adjustment parts (⇧) Adjustment level (☆)	Adjustment procedure
44	On-screen display position adjustment	Monitor TV Color bar (built-in signal)	EE ADJUST MENU, 200 OSD ADJ	◎ LINE OUT or Y/C OUT (75 Ω terminated) ⇧ [PLAY] and [STOP] buttons ☆ Between "3" and "4" ± 1/5 character	(1) Set the INPUT SELECT SW to LINE or Y/C. (2) Select ADJUST MENU No. 200, "OSD ADJ". (3) Adjust so that the boundary between the Red and Blue color bars comes in the space between "4" on the second position from the right of the array of figures on the bottom of the screen and "3" on the third position. (4) Press the [SET] button to store the adjustment data.
		 Adjust so that the boundary between the Red and Blue color bars comes in the space between "4" and "3".			

3.4 REWRITE BOARD SCHEMATIC DIAGRAM



S1			S2	S3
Pin No.	Initial	Parameter	Reset for EEP-ROM (LENS) data. (for GY-DV300)	Power ON switch (for GY-DV300)
1	OFF	ON : Enable to rewrite CAM CPU (for GY-DV300)		
2	OFF	ON : Enable to rewrite SYS CPU		
3	OFF	ON : Enable to rewrite LENS CPU (*Note)		
4	OFF	ON : Enable to rewrite VTR (MSD) CPU (*Note)		
5	OFF	Not used		
6	OFF	Not used (for GY-DV300)		

*Note : When rewriting the VTR (MSD) firmware, both of switch S1 - 3 and 4 should be set to “ON”.

JVC

VICTOR COMPANY OF JAPAN, LIMITED

Printed in Japan
(S)-I.A/O.S/A.I/GEN

SECTION 8
TECHNICAL DESCRIPTION

8.1 PRODUCT OUTLINE

(1) DV Standard/Mini cassette compatible
(2) 4.5 hours consecutive recording/playback possible using Standard cassette (ME270)
(3) 5.25-inch half hight bay size compact design (mechanism unit only)
(4) Layout-free with horizontal and vertical positioning capability

8.2 MECHANISM

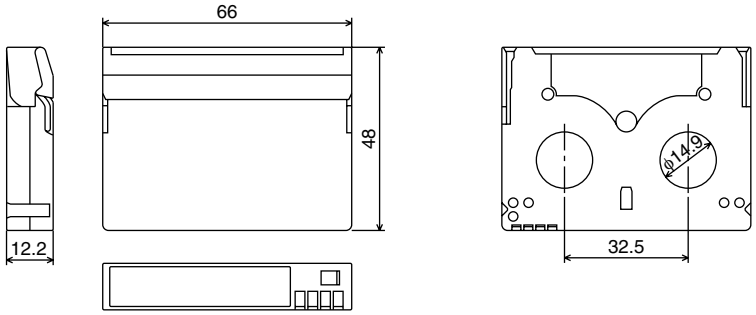
8.2.1 Comparison with previous mechanism

Item	BR-DV600	BR-DV3000
Compatible cassette	Mini Cassette only	Mini/Standard Cassette compatible
Loading system	Front loading	←
Head cleaner	Yes (solenoid)	←
Reel drive	Capstan belt drive	Reel motor (1 motor)
FWD/REV reel switching	Swing gear switching	←
Tension control	Tension band method (SUP side only)	Tension band method (SUP/TU dual control)

8.2.2 Regarding standard cassette

BR-DV3000 is newly compatible with DV standard size cassettes. Fig. 8.2.1 shows a size comparison with conventional Mini cassette. All dimensions differ, including cassette thickness in addition to height and width.

• Mini Cassette



• Standard Cassette

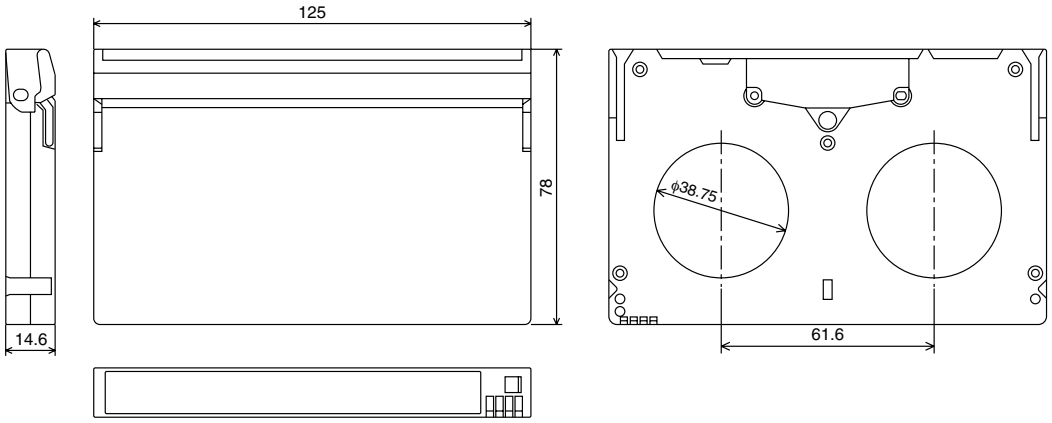


Fig. 8.2.1 Comparison Between Mini Cassette and Standard Cassette

8.2.3 Cassette housing operation outline

(1) Inserted cassette type detection

In its initial state, the reel disk is in the standard position, and only when a mini cassette is inserted it changes to the mini cassette position. As explained in Section 2, it is the reel change plate (Fig. 8.2.5) that changes the position of the reel disk.

As previously compared in 8.2.1, the thickness of standard and mini cassettes differ.

Standard cassette thickness : 14.6 mm

Mini cassette thickness : 12.2 mm

Based on this difference, it is differentiated within the cassette housing whether the inserted cassette is standard or mini.

1) When a mini cassette is inserted

The reel disk position changes to the mini cassette position at the same time the cassette housing performs the intake movement.

The reel change bracket (Fig. 8.2.3) located on the right side of the cassette housing is linked to the reel change plate (Fig. 8.2.4), so when the cassette housing intake movement occurs the reel change plate also moves, thereby changing to the mini cassette position.

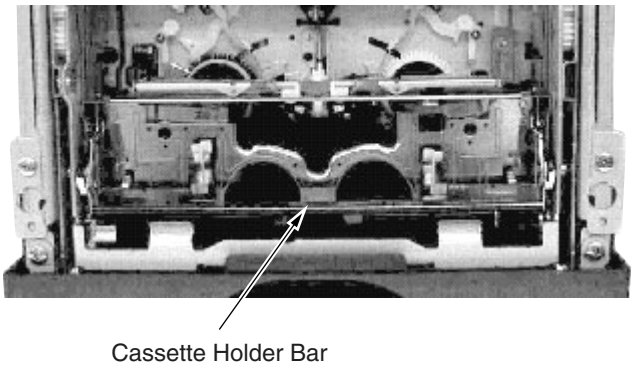


Fig. 8.2.2 Cassette Holder Bar

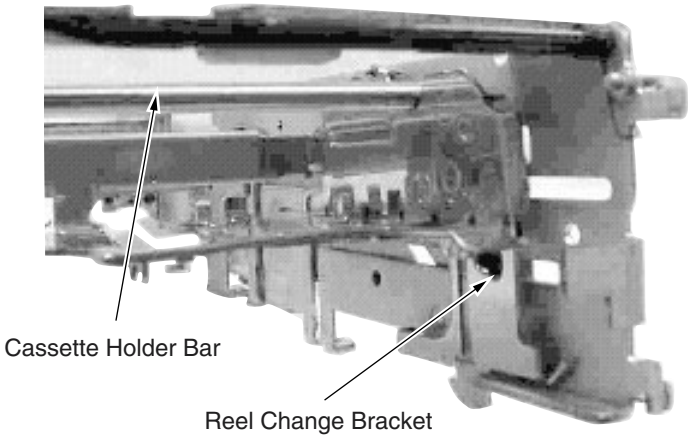


Fig. 8.2.3 Reel Change Bracket

2) When a standard cassette is inserted

The cassette holder bar (Fig. 8.2.2) is pushed up for the amount of thickness differential in relation to mini cassette, and in conjunction the reel change bracket (Fig. 8.2.3) located on the right side of the cassette housing moves upward. As a result, the link with the reel change plate (Fig. 8.2.4) becomes free, and the reel disk becomes held in the standard position even while the cassette housing is undergoing the intake movement.

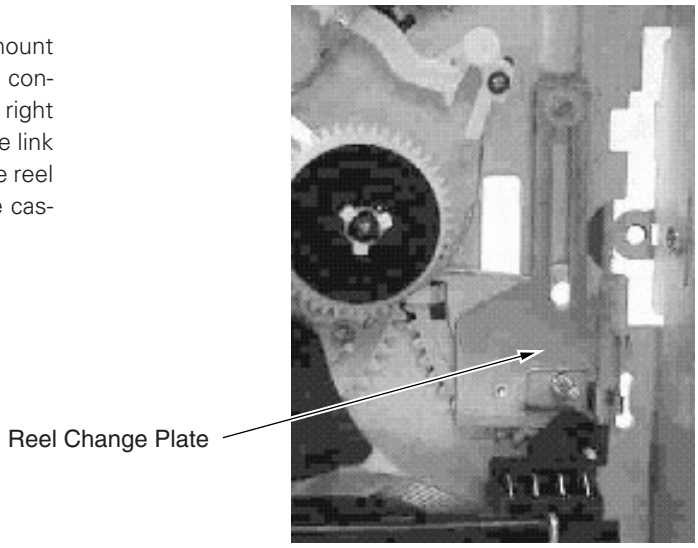


Fig. 8.2.4 Reel Change Plate

(2) Mini Cassette Incorrect Insertion Prevention Function

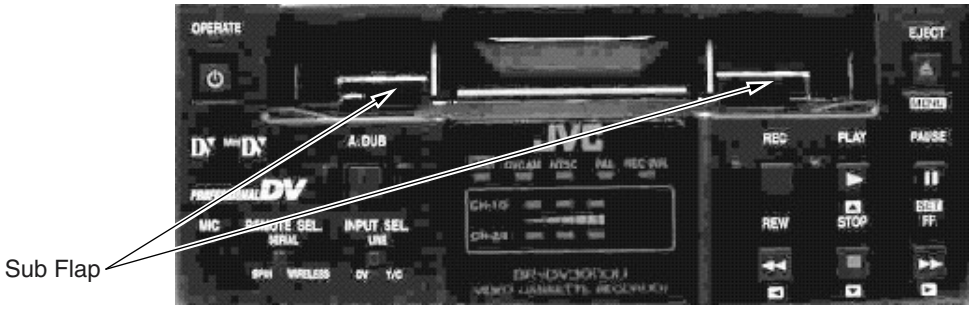


Fig. 8.2.5 Sub Flap

Sub flaps are attached on the cassette guide assembly located on the bottom end of the cassette housing door. These two sub flaps are designed to open when both are pressed simultaneously, and in the case of a mini cassette it is impossible for both to be pressed at the same time. So even if an inserted mini cassette touches against one of the sub flaps, the sub flaps will act as a brake to prevent erroneous loading of a mini cassette.

CAUTION

Even with standard cassettes, if the cassette is inserted skewed or diagonally offset in relation to the sub flaps, the sub flaps may not open and cassette insertion may not be possible. When inserting a standard cassette, be sure to insert so that the sides are parallel to the sub flaps.

(3) Intake/Eject Detection

Two housing switches (HW, HW2) are equipped on the front left side of the main deck. (See Fig. 8.2.6)
In the initial status in which no cassette is inserted (NO cassette mode), switch HW is pressed and switch HW2 is not pressed.

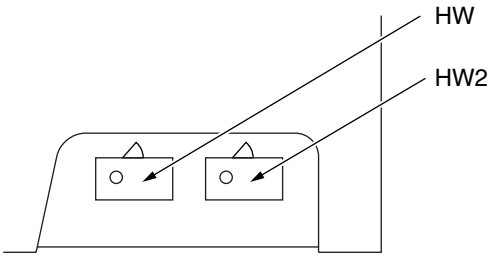


Fig. 8.2.6 Cassette Housing Switch

Mode	HW	HW2	S3
EJECT (Initial)	ON	OFF	OFF
INTAKE Detect	OFF	OFF	OFF
INTAKE END	OFF	OFF	ON
EJECT END	ON	ON	OFF

Table 8.2.1

Intake : When a cassette is inserted, the HW switch goes OFF, which causes detection of cassette insertion. After this the motor begins intake action.

Intake complete : When cassette intake is completed, in conjunction with the housing movement the main deck's switch lever slides, causing the MECHA board S3 (cassette switch) to be pressed, and intake completion is detected. (See Fig. 8.2.7)

Eject : When ejecting the cassette, both switches HW and HW2 are momentarily ON, and eject completion is detected. And from here, it returns to the initial status of switch HW=ON, HW2=OFF.

8.2.4 Switches

This is a description of how the various switches equipped on the mechanism operate, as shown in table 8.2.2.

Switch name	Operation	Location
HW	Cassette intake detection switch	Fig. 8.2.6
HW2	Cassette eject detection switch	Fig. 8.2.6
S1 (Mecha board)	Standard cassette detection switch	Fig. 8.2.7 ①
S2 (Mecha board)	SUP reel lock release switch*	Fig. 8.2.7 ②
S3 (Mecha board)	Cassette intake completion detection switch	Fig. 8.2.7 ③

Table 8.2.2 Switches

* Condition of SUP reel lock release switch operation :
After cassette intake, tape is pulled out of the take-up side for loading, but when a virgin tape is inserted it switches over to pull out from the supply side since it is not possible to pull out from the take-up side.
Immediately following tape intake completion, when the Begin sensor detects tape leader the cassette housing motor moves further to the loading side and, after the switches lever release the SUP brake, S2 is turned ON and brake release is detected.

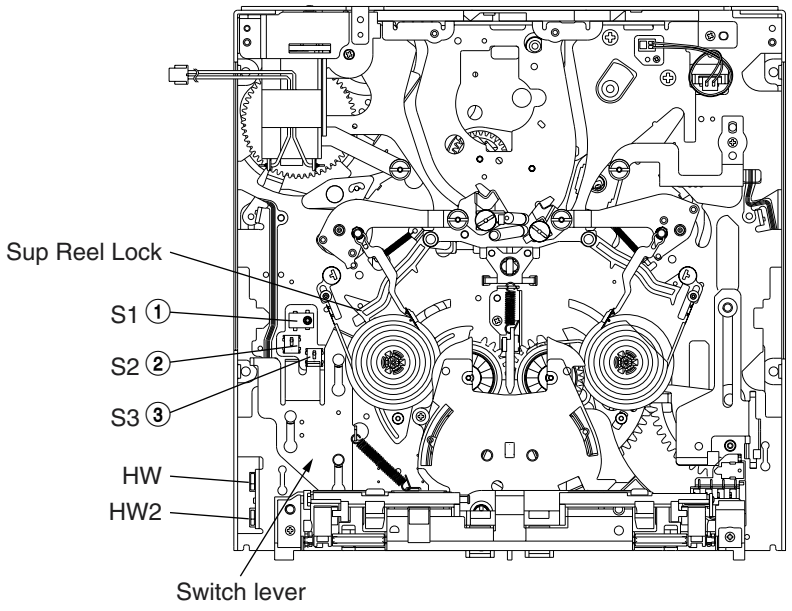


Fig. 8.2.7 Switch Location

8.2.5 Reel motor

In conventional models the reel was belt driven by capstan motor, but with the BR-DV3000 a one-reel motor has been adopted. As a result, quicker response when switching from Play to Reverse Search or Forward Search modes has been attained, greatly improving operability and the durability.
And as shown in table 8.2.3 the speeds of capstan search and FF/REW are also accelerated.

		BR-DV500	BR-DV3000
CAPSTAN Search SPEED		Approx. 10X speed	Approx. 20X speed
FF/REW TIME	Mini (60ME)	Under 2 minutes	Under 75 sec.
	Standerd (60ME)	—	Under 200 sec.

Table 8.2.3

8.2.6 Tension

The BR-DV3000 have double tension control for supply/take-up.
In conventional mechanisms the FWD side tape tension was regulated using supply back-tension control function, whereas the REV side back-tension system consisted only of a certain braking pressure, so tape winding commonly resulted in a tension differential of up to 2.5 times.

The BR-DV3000 uses double tension control to regulate the tension differential caused by winding and modes used, obtaining a uniform tape tension for stable tape transport.

8.2.7 Mode sensor

The BR-DV3000's mode sensor adopts the variable resistor method (MECHA board VR1) which uses changes in resistance to detect the position of the mechanism. The changed voltage, brought about by changes in the resistance value due to mechanism position, is sent to DV/CPU IC302 to made to the A/D conversion. The mechanism position is judged by this.

Mode sensor voltage	Mechanism position	Mode
0.273 ± 0.03 V	UNLOAD END position	NO CASSETTE MODE
1.314 ± 0.03 V	BRAKE position	FF/REW → Modes in which tension band is used as brake for stopping
1.691 ± 0.03 V	FAST position	FF/REW MODE
2.111 ± 0.03 V	STOP position	STAND-BY OFF
2.716 ± 0.03 V	SEARCH position	PLAY/REC/SEARCH/STAND-BY ON

Table 8.2.4 Voltage and Mechanism Position Comparison

* Voltage figures shown are target values for software control, and may differ somewhat from the actual voltage. Please regard them as rough estimates.

8.3 SYSTEM CONTROL

8.3.1 Outline

The control system is comprised of the SYSCON CPU (IC2001) on the MAIN board assembly, and the VCR (MSD) CPU (IC302) on the DV/CPU board assembly. Both of these are connected by a bus called the MS_BUS, and communicate via serial data transfer.

Communication type	Clock synchronous serial communication
Communication speed	1.68 Mbps
Data length	8bit x 25
Bit order	MSB head
Clock generation source	SYS CPU
Data direction	Full duplex

Table 8.3.1 MS_BUS Communication Settings

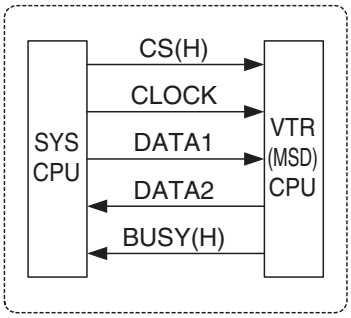


Fig. 8.3.1 MS BUS Connection

8.3.2 Communication specifications

(1) SYSCON CPU turns the CS from "L" → "H" and communication begins.
(2) SYSCON CPU confirms that the BUSY terminal is "L", and transmits data at CLOCK1.68MHz as well as receives data from the VCR (MSD) CPU.
(3) VCR (MSD) CPU also sends and receives data in accordance with CLK. However, if it is not yet ready for communication it sets the BUSY terminal to "H" and notifies the SYSCON CPU.
(4) When the BUSY terminal is "H", SYS CPU skips the current communication and waits until the next block (400 μs later) to see if it is "L" and then starts communication.
(5) After 25 Bytes are communicated, CS is set to "L" and communication ends.

8.3.3 Communication timing

In synchronization with internal reference sync, communication takes place once every 16.6 ms (NTSC) or 20 ms (PAL). Byte interval is 400 μs. When necessary the contents of the communication are changed at the 1st2nd field.

8.3.4 SYSCON (IC2001) CPU port functions

Pin No.	Port Name	Reference	I/O	Description
1	PE5	TP2004		Not used
2	PE6	HOUSING_SW	I	H : Insert cassette tape
3	PE7	CASS_SW	I	L : Complate to intake cassette tape
4	PD0	DAC_CS (H)	O	IC201 chip select
5	PD1	165_CS	O	IC2006/IC2007 chip select
6	PD2	4094_CS	O	IC3009/IC3010 chip select
7	PD3	AUD_DACTL_CS (L)	O	IC1006 (AUDIO DA) chip select
8	PD4	66311_DATA	O	IC2008 data
9	PD5	PON_MAIN (H)	O	
10	PD6	PON_UNIT (H)	O	
11	PD7	AUDREF12 (H)	O	Corresponds to audio level for consumer VTR.
12	CVCC	Power supply	+3V	
13	PC0	SDI	I	IC2006/IC2007 serial pin.
14	VSS	Power supply	GND	
15	PC1	S_DATA	O	IC2008/IC2010/IC201
16	PC2	S_CLK	O	IC2006/IC2008/IC2009/IC2010/IC201 clock
17	PC3	AUDIN_MUTE (H)	O	For muting the audio input
18	PC4	AUD_SYS_MUTE	O	For muting the audio output
19	PC5	AUDOUT_SMUT	O	For muting the search level
20	PC6	AUD_DACTL_CK	O	Audio DA clock
21	PC7	AUD_DACTL_DT	O	Audio DA data
22	PB0/TIOCA3	66311_CLK	O	IC208 clock
23	PB1/TIOCB3	66311_CSK	O	IC208 data
24	PB2/TIOCC3	WIRELESS_REM	I	Wireless remote input
25	PB3/TIOCD3	SERIAL_REM	I	Serial remote input
26	PB4/TIOCA4	NTSC (L)	O	VIDEO
27	PB5/TIOCB4	BWO (L)	O	VIDEO
28	PB6/TIOCA5	CPS (L)	O	VIDEO
29	PB7/TIOCB5	66311_RST	O	IC2008 RESET
30	PA0	ODD_EVEN	I	
31	PA1/TxD2	SYSCPU_TRXD	O	TCCS (For factory use)
32	PA2/RxD2	SYSCPU_TTXD	I	
33	PA3/SCK2	SYSCPU_TCK		YDC clock input
34	P10/TIOCA0	E2_DI	I	EEPROM
35	P11/TIOCB0	E2_DO	O	
36	P12/TIOCC0/TCLKA	E2_CLK	O	
37	P13/TIOCD0/TCLKB	E2_CS	O	
38	P14/TIOCA1/IRQ0	RTC_INT	I	RTC (Real time clock) IC2002
39	P15/TIOCB1/TCLKC	RTC_CS	O	
40	P16/TIOCA2/IRQ1	RTC_CLK	O	
41	P17/TIOCB2/TCLKD	RTC_SIO	I/O	
42	AVSS	Analog GND	GND	
43	P97/DA1			Not used
44	P96/DA0			Not used
45	P47/AN7			Not used
46	P46/AN6			Not used
47	P45/AN5			Not used
48	P44/AN4			Not used
49	P43/AN3	CIN_DC	I	
50	P42/AN2	LEVEL_DET_DC	I	Low battery detection

Pin No.	Port Name	Reference	I/O	Description
51	P41/AN1	METER_CH1	I	AUDIO indicator
52	P40/AN0	METER_CH2	I	
53	Vref	Analog reference	-	
54	AVCC	Analog power	+3V	
55	MD0	Mode terminal 0	I	Pullup (not used)
56	MD1	Mode terminal 1	I	Pullup (not used)
57	OSC2	Subclock (32.768kHz)	I	X2002
58	OSC1	Subclock (32.768kHz)	I	
59	RES	Reset input	I	From IC2004
60	NMI	NMI	I	Pullup (not used)
61	STBY	Standby	I	Pullup (not used)
62	VCC	Power	+3V	
63	XTAL	Clock	I	X2001
64	VSS	Power	GND	
65	EXTAL	External clock	I	X2001
66	FEW	Flush light enable	I	For Rewrite
67	MD2	Mode terminal 2	I	Operation mode setup
68	PF7/ϕ	System clock (TP2002)	O	
69	PF6	SWIN_NTSC	I	REAR NTSC/PAL slid SW
70	PF5	TP2021		Not used
71	PF4	FAN_STOP (H)	I	Not used
72	PF3/-ADTRG/IRQ3	OPERATE	I	Operate SW
73	PF2	EJECT	I	Pull-up from EJECT SW AL3V
74	PF1/BUZZ	TP2023	-	Not used
75	PF0/IRQ2	WAKE_UP	I	Start interrupt key input from standby mode
76	P30/TxD0	OSD_DATA	O	OSD (UART0)
77	P31/RxD0	OSD_CS	O	
78	P32/SCK0/SDA1/IRQ4	OSD_CLK	O	
79	P33/TxD1/SCL1	422_Tx	O	RS-422 (UART1)
80	P34/RxD1/SDA0	422_Rx	I	
81	P35/SCK1/SCL0/IRQ5	8029VD	I	IC208 CSYNC
82	P36	OSD_RST	O	OSD
83	P77/TxD3	MS_OUT	O	MS BUS (UART3)
84	P76/RxD3	MS_IN	I	
85	P75/TMO3/SCK3	MS_CLK	O	
86	P74/TMO2/MRES	SCR_LR	I	Not used
87	P73/TMO1	SCR_UD	I	Not used
88	P72/TMO0	V_MUTE	O	
89	P71/TMRI23/TMCI23	MSD_RESET		Reset output to VCR (MSD) microcomputer
90	P70/TMRI01/TMCI01	MSD_CS	O	Interface with VCR (MSD) microcomputer
91	PG0/IRQ6	SYS_OUTV	I	VIDEO V TIMING
92	PG1/IRQ7	SYS_INV	I	
93	PG2	MSD_READY	O	Interface with VCR (MSD) microcomputer
94	PG3	8029CS	O	IC208 control
95	PG4	8029CLK	O	
96	PE0	8029SDI	O	
97	PE1	8029SDO	I	
98	PE2	8029RST	O	
99	PE3	8029AMUTE	O	
100	PE4	V_PB (H)	O	VIDEO

Table 8.3.2 SYSCON Terminal Function

8.3.5 MSD CPU (IC302) port functions

Pin No.	Port Name	Reference	I/O	Description
1	ND	OPEN	-	Not used
2	ND	OPEN	-	Not used
3	VSS	D_GND	-	GND for digital
4	P01/D1	STD_CASS_SW	I	Standard cassette switch
5	P05/D5	START_SEL_2	O	Standard sensor sensibility selection
6	P11/D9	REEL_FWD_CTL	O	Reel motor direction control
7	NC (VDDF)	VOUT_25	I	Power for digital
8	VSS	D_GND	-	GND for digital
9	P26/D22/SBI1	EEPR_SDI	I	For EEPROM communication
10	P30/D24/SBT1	EEPR_SCL	O	For EEPROM communication
11	P35/D29/SBO3	MS_IN	O	Data for MS_BUS communication
12	P40/PWM1/TM0IO	DRUM_REF	O	DRUM_REF (MDA)
13	P51/IRQ1	DRUM_FG	I	DRUM_FG
14	P57/IRQ7	GND (10k)	O	Not used
15	NC (VDDF)	VOUT_25	I	Power for digital
16	P61/IRQ9	GNDÅi10kÅj	O	Not used
17 — 20	ND	OPEN	-	Not used
21	VDDH	AL_3VSYS	I	Power for digital
22	VOUT	VOUT_25	O	Power for VDD and VDDF
23	P14/D12	HOUSING_IN	O	Housing control
24	P03/D3	HOUSING2_SW	I	HW2/mini cassette eject switchs
25	P07/D7	END_SEL_2	O	End sensor sensibility
26	P13/D11	HOUSING_SW	I	Housing control
27	P20/D16/SBIB	CLN_SOL	O	Cleaner solenoid drive
28	P22/D18/SBTB	MSD_RDY	O	For MS_BUS communication
29	P32/D26/SBO2	LED_1SW	O	Front panel LED 1
30	VDDH	AL_3VSYS	I	Power for digital
31	VSS	D_GND	-	GND for digital
32	P53/IRQ3	GND (10k)	O	Not used
33	P25/D21/SBT0	MIC_3	O	CLK for cassette MIC communication
34	P33/D27/SBT2	EEPR_CS	O	For EEPROM communication
35	P63/IRQ11	GND (10k)	O	Not used
36	ND	OPEN	-	Not used
37	ND	OPEN	-	Not used
38	PU1/WE3/SRAS	OPEN	O	Not used
39	LON	AL_3VSYS (1k)	I	Use for regulator
40	NMIRQ	AL_3VSYS	O	Not used
41	VDDH	AL_3VSYS	I	Power for digital
42	P04/D4	START_SEL_1	O	Standard sensor sensibility selection
43	P06/D6	END_SEL_1	O	End sensor sensibility selection
44	P15/D13	HOUSING_OUT	O	Housing control
45	P17/D15	CAP_BRK	O	MDA control
46	NC (VSS)	D_GND	-	GND for digital
47	P23/D19/SBI0	MIC_1	O	For cassette MIC communication
48	P31/D25/SBI2	LED_2_SW	O	Front panel LED2
49	P37/D31/PWM0	CAP_REF	O	CAP_REF (MDA)
50	P41/PWM2/TM1IO	MECHA_REF	O	Mode/Housing motor control voltage
51	P43/PWM4	OPEN	O	Not used
52	P34/D28/SBI3	MS_OUT	I	Data for MS_VUS communication
53	P54/IRQ4	GND (10k)	O	Not used

Pin No.	Port Name	Reference	I/O	Description
54	P62/IRQ10	GND	O	Not used
55	P80/ICR0	DRUM_FG	I	DRUM_FG
56	P81/ICR1	CAP_FG	I	CAP_FG
57	PT2/SBT9	OPEN	O	Not used
58	PS1/SBO4	MDA_IN	O	For MDA communication
59	PU0/WE2/SCAS	OPEN	O	Not used
60	PS3/SBI5	OPEN	O	Not used
61	VOUT	VOUT_25	O	Power for VDD and VDDF
62	P00/D0	TAPE_LED	O	For TAPE_LED
63	VSS	D_GND	-	GND for digital
64	VDDH	AL_3VSYS	I	Power for digital
65	P16/D14	MECHA_VM_CTL	O	Switching the MECHA VM
66	P24/D20/SBO0	MIC_2	O	For cassette MIC communication
67	VSS	D_GND	-	GND for digital
68	P42/PWM3/TM2IO	REEL_REF	O	Reel motor control voltage
69	P55/IRQ5	GND (10k)	O	Not used
70	P52/IRQ2	DRUM_PG	I	DRUM_PG
71	P56/IRQ6	GND(10k)	O	Not used
72	P84/ICR4	SUP_REEL_SENSOR	I	SUP_REEL_SENSOR
73	VSS	D_GND	-	GND for digital
74	P60/IRQ8	GND (10k)	O	Not used
75	P83/ICR3	TU_REEL_SENSOR	I	TU_REEL_SENSOR
76	PS4/SBO5	OPEN	O	Not used
77	PT0/SBI9	OPEN	O	Not used
78	PR4/A23/KI4/SDCLKO	GND (10k)	O	Not used
79	PS5/SBT5	OPEN	O	Not used
80	PT1/SBO9	OPEN	O	Not used
81	VSS	D_GND	-	GND for digital
82	P02/D2	SP_LOCK_SW	I	SP lock detection switch
83	P10/D8	REEL_BRK	O	Reel motor brake
84	P12/D10	CASETTE_SW	I	CASSETTE SW
85	P21/D17/SBOB	A_MUTE	O	Audio mute
86	P27/D23/SBO1	EEPR_SDO	O	EEPROM communication
87	P36/D30/SBT3	MS_CLK	I	CLK for MS_BUS communication
88	P50/IRQ0	MSD CS	I	MSD CS
89	ND	OPEN	-	Not used
90	P90/ICR8	FRP	I	Interface with IC103
91	P82/ICR2	REEL_FG	I	Reel FG input
92	P86/ICR6	SRV_FRP	I	Interface with IC103
93	P85/ICR5	HID1	I	Interface with IC103
94	P87/ICR7	DET_VD	I	Analog input detection
95	PR6/A25/KI6	GND (10k)	O	Not used
96	PS2/SBT4	MDA_CLK	O	For MDA communication
97	VDDH	AL_3VSYS	I	Power for digital
98	VSS	D_GND	-	GND for digital
99 — 108	ND	OPEN	-	Not used
109	NC (VSS)	D_GND	-	GND for digital
110	VDD2	AL_3VSYS	I	Power for digital
111	P92/ICR10	SPA	I	Interface with IC103
112	VSS	D_GND	-	GND for digital

Pin No.	Port Name	Reference	I/O	Description
113	P91/ICR9	TSR	I	Interface with IC103
114	PR3/A22/KI3/SCKE	GND (10k)	O	Not used
115	PR5/A24/KI5/SDCLKI	GND (10k)	O	Not used
116	PQ2/A18	DV_RST	O	Interface with IC103
117	PS0/SBI4	MDA_CS	O	For MDA communication
118	PR7/KI7/PWM5	GND (10k)	O	Not used
119 — 127	ND	OPEN	-	Not used
128	PA1/SBO6	OPEN	O	Not used
129	P94/ICR12	SRV_TRK	I	Interface with IC103
130	PA3/SBI7	OPEN	O	Not used
131	PA0/SBI6	OPEN	O	Not used
132	PA2/SBT6	OPEN	O	Not used
133	PQ1/A17	CLK27SEL	O	Interface with IC103
134	PR0/A19/KI0	GND (10k)	O	Not used
135	PQ0/A16	NTSC_L	I	NTSC_L
136	PR2/A21/KI2/SWE	GND (10k)	O	Not used
137	PR1/A20/KI1	GND (10k)	O	Not used
138 — 146	ND	OPEN	-	Not used
147	PB3/WDOVF	OPEN	O	Not used
148	P93/ICR11	OUT_V	I	MVD0 (DVSYS)
149	PA5/SBT7	OPEN	O	Not used
150	PA4/SBO7	OPEN	O	Not used
151	PB2/IRQ14	OPEN	O	Not used
152	VSS	D_GND	-	GND for digital
153	PL5/PWM6	OPEN	O	Not used
154	PL4/TM7IO	V_MUTE	I	V MUTE (DVSYS)
155	PL3/TM6IO	OPEN	O	Not used
156	PL2/TM5IO	SCR_UD	O	Not used
157 — 165	ND	OPEN	-	Not used
166	PC3/SY0OT3	OPEN	-	Not used
167	PB0/IRQ12	OPEN	O	Not used
168	PB1/IRQ13	INV	I	ODD/EVEN distinguish
169	PB4/BR	OPEN	O	Not used
170	VSS	D_GND	-	GND for digital
171	PL0/TM3IO	OPEN	O	Not used
172	PK6/TM36IO	HID3	O	Interface with IC1
173	PL1/TM4IO	SCR_LR	O	Not used
174	PK4/TM34IO	PBH	O	Interface with IC1
175	PK3/TM33IO	REEL_LED	O	TU_REEL_LED
176 — 184	ND	OPEN	-	Not used
185	PC5/SY1OT1/SBO8	OPEN	O	Not used
186	PC0/SY0OT0	HID1	O	TO P/R IC1
187	PB5/BG	OPEN	O	Not used
188	PC2/SY0OT2	OPEN	-	Not used
189	PC4/SY1OT0/SBI8	OPEN	I	Not used
190	OSCI	Supply the external clock	I	40MHz
191	PK2/TM32IO	REC_SAFE	I	REC_SAFTY_SW
192	PK0/TM30IO	OPEN	O	Not used
193	VDD	VOUT_25	I	Power for digital
194	VSS	D_GND	-	GND for digital

Pin No.	Port Name	Reference	I/O	Description
195 — 203	ND	OPEN	-	Not used
204	VSS	D_GND	-	GND for digital
205	PD0/TM10IO	OPEN	O	Not used
206	PC1/SY0OT1	OPEN	-	Not used
207	VDD2	AL_3VSYS	I	Power for digital
208	PC6/SY1OT2/SBT8	OPEN	-	Not used
209	OSCO		O	40MHz
210	FRQS	VTR_TAUX	I	For rewrite
211	PK7/TM37IO	MONI_CHG	O	Interface with P/R
212	CKSEL	VTR_TTxD	I	For rewrite
213	MMOD1	VTR_TCK	I	For rewrite
214 — 222	ND	OPEN	-	Not used
223	NC (VSS)	D_GND	-	GND for digital
224	PE1/TM20IOB	GND (10k)	O	Not used
225	PC7/SY1OT3	OPEN	-	Not used
226	PD3/TM13IO	OPEN	O	Not used
227	PD2/TM12IO	OPEN	O	Not used
228	MMOD0	VTR_TRXD	I	For rewrite
229	PJ1/EXMOD1	VTR_TAUX3	I	For rewrite
230	PK5/TM35IO	REC_H	O	Interface with P/R
231	VDDH	AL_3VSYS	I	Power for digital
232	PVSS	A_GND	I	GND for analog
233 — 241	ND	OPEN	-	Not used
242	VDD	VOUT_25	I	Power for digital
243	PE7/TM23IOB	GND (10k)	O	Not used
244	PD1/TM11IO	OPEN	O	Not used
245	PE3/TM21IOB	FFREW_H	O	Not used
246	PD5/TM15IO	OPEN	O	Not used
247	PVDD	AL_3VSYS	I	Power for analog
248	PP7/ADM15/A15	ADM15	I/O	Interface with IC103
249	PK1/TM31IO	OPEN	O	Not used
250	RST	VTR_RESET	I	For rewrite
251 — 261	ND	OPEN	-	Not used
262	PE4/TM22IOA	GND (10k)	O	Not used
263	PD4/TM14IO	OPEN	O	Not used
264	PE5/TM22IOB	GND (10k)	O	Not used
265	VDD2	AL_3VSYS	I	Power for digital
266	PP5/ADM13/A13	ADM13	I/O	Interface with IC103
267	PP3/ADM11/A11	ADM11	I/O	Interface with IC103
268	PP4/ADM12/A12	ADM12	I/O	Interface with IC103
269	VSS	D_GND	-	GND for digital
270	VSS	D_GND	-	GND for digital
271	ND	OPEN	-	Not used
272	VDD	VOUT_25	I	Power for digital
273	VSS	D_GND	-	GND for digital
274	P70/AN24	GND (10k)	-	Not used
275	PI6/AN22	GND (10k)	-	Not used
276	PI0/AN16	GND (10k)	-	Not used
277	PH0/AN8	THERM_MSD	I	Temperature sensor
278	PG0/AN0	START_SENSOR	I	START_SENSOR

Pin No.	Port Name	Reference	I/O	Description
279	ND	OPEN	-	Not used
280	TRST	VSS (10k)	-	Not used
281	PF0/TM24IOA	OPEN	O	Not used
282	PE2/TM21IOA	DRUM_FG	O	DRUM_FG
283	PE0/TM20IOA	GND (10k)	O	Not used
284	PF1/TM24IOB	OPEN	O	Not used
285	PP1/ADM9/A9	ADM9	I/O	Interface with 3.5LSI
286	PJ0/EXMOD0	GND (10k)	I	Memory mode selection
287	PO4/ADM4/A4	ADM4	I/O	Interface with IC103
288	PO7/ADM7/A7	ADM7	I/O	Interface with IC103
289	PO1/ADM1/A1	ADM1	I/O	Interface with IC103
290	PN5/AS	DALE	O	Interface with IC103
291	PN4/DK	DV_WAIT	I	Interface with IC103
292	PM4/CS4	OPEN	O	Not used
293	VDDB	AL_3VSYS	I	Power for digital
294	PI4/AN20	GND (10k)	-	Not used
295	PI1/AN17	GND (10k)	-	Not used
296	PH1/AN9	REEL_CURENT	I	Reel motor current
297	PG1/AN1	END_SENSOR	I	E_SENSOR
298	VREFH	AL_3VSYS (for analog)	I	A/D GND (H)
299	VDD	VOUT_25	I	Power for digital
300	TMS	VDD2 (10k)	-	Not used
301	PE6/TM23IOA	GND (10k)	O	Not used
302	PF2/TM25IOA	OPEN	O	Not used
303	PF3/TM25IOB	GND (10k)	O	Not used
304	PP0/ADM8/A8	ADM8	I/O	Interface with IC103
305	PP6/ADM14/A14	ADM14	I/O	Interface with IC103
306	PP2/ADM10/A10	ADM10	I/O	Interface with IC103
307	PN3/RE	DRE	O	Interface with IC103
308	PN1/WE1/SDQM1	OPEN	O	Not used
309	PM2/CS2	DV_CS	O	Interface with IC103
310	PM5/RWSEL	RWSEL	O	Interface with IC103
311	PM0/CS0	OPEN	O	Not used
312	PI2/AN18	GND (10k)	-	Not used
313	PH6/AN14	EJECT_MSD	-	EJECT brings up
314	PH7/AN15	GND (10k)	-	Not used
315	PH4/AN12	GND (10k)	-	Not used
316	PH2/AN10	REEL_ECR	I	Reference value for reel torque control
317	PG4/AN4	MIC_2	I	AD for MIC IDBOARD detection
318	PG2/AN2	DEW_SENSOR	I	DEW_SENSOR
319	VREFL	A_GND	I	A/D GND (L)
320	PV1/SBOA	DAC_DATA	O	D/A control
321	TCK	VDD2 (10k)	-	Not used
322	TDI	VDD2 (10k)	-	Not used
323	ND	OPEN	-	Not used
324	ND	OPEN	-	Not used
325	VDDB	AL_3VSYS	I	Power for digital
326	PO2/ADM2/A2	ADM2	I/O	Interface with IC103
327	PO5/ADM5/A5	ADM5	I/O	Interface with IC103
328	VDD	VOUT_25	I	Power for digital

Pin No.	Port Name	Reference	I/O	Description
329	VSS	D_GND	-	GND for digital
330	PN0/WE0/SDQM0	DWE	O	Interface with IC103
331	PM1/CS1	OPEN	O	Not used
332	PI7/AN23	GND (10k)	-	Not used
333	PI3/AN19	GND (10k)	-	Not used
334	PH3/AN11	HOUS_CURRENT	I	Tension sensor
335	PG5/AN5	MIC_1	I	AD for MIC IDBOARD detection
336	AVDD	AL_3VSYS	I	Power for analog
337	VSS	D_GND	-	GND for digital
338	PG6/AN6	GND (10k)	-	Not used
339	PV2/SBTA	DAC_CLK	O	D/A control
340 — 343	ND	OPEN	-	Not used
344	PO6/ADM6/A6	ADM6	I/O	Interface with IC103
345	PO3/ADM3/A3	ADM3	I/O	Interface with IC103
346	VDDB	AL_3VSYS	I	Power for digital
347	PO0/ADM0/A0	ADM0	I/O	Interface with IC103
348	PN2/SYSCLK	OPEN	O	Not used
349	PM3/CS3	OPEN	O	Not used
350	VSS	D_GND	-	GND for digital
351	AVSS	A_GND	I	GND for analog
352	PI5/AN21	GND (10k)	-	Not used
353	PH5/AN13	GND (10k)	-	Not used
354	PG7/AN7	MODE_SENS	I	Mode sensor (mecha position)
355	PG3/AN3	MIC_3	I	AD for MIC IDBOARD detection
356	PV3/ADTRG	AL_3VSYS	-	Not used
357	PV0/SBIA	DAC_CS	O	D/A control
358	TDO	OPEN	-	Not used
359 — 360	ND	OPEN	-	Not used

Table 8.3.3 MSD Terminal Function

8.3.6 RS-422A command list

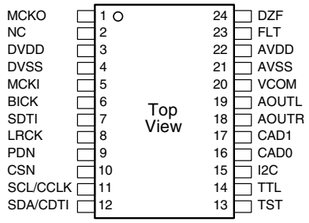
COMMAND FROM CONTROLLER					RETURN FROM			
CMD -1	Data Count	CMD -2	DATA -1	NAME	CMD -1	Data Count	CMD -2	NAME
0	0	0C	-	Local Disable	1	0	01	ACK
0	0	11	-	Device Type Request	1	2	11	Device Type
0	0	1D	-	Local Enable	1	0	01	ACK
2	0	00	-	Stop	1	0	01	ACK
2	0	01	-	Play	1	0	01	ACK
2	0	02	-	Rec	1	0	01	ACK
2	0	03	-	StillÅiJVC OnlyÅj	1	0	01	ACK
2	0	04	-	Standby Off	1	0	01	ACK
2	0	05	-	Standby On	1	0	01	ACK
2	0	0F	-	Eject	1	0	01	ACK
2	0	10	-	Fast Fwd	1	0	01	ACK
2	X	11	-	Jog Fwd	1	0	01	ACK (Switch to shuttle)
2	X	12	-	Var Fwd	1	0	01	ACK (Switch to shuttle)
2	X	13	-	Shuttle Fwd	1	0	01	ACK
2	0	20	-	Rewind	1	0	01	ACK
2	X	21	-	Jog Rev	1	0	01	ACK (Switch to shuttle)
2	X	22	-	Var Rev	1	0	01	ACK (Switch to shuttle)
2	X	23	-	Shuttle Rev	1	0	01	ACK
2	0	30	-	Preroll	1	0	01	ACK
2	4	31	-	Cue Up With Data	1	0	01	ACK
2	0	54	-	Anti-clog Timer Disable	1	0	01	ACK
2	0	55	-	Anti-clog Timer Enable	1	0	01	ACK
4	4	04	-	Time Code Preset	1	0	01	ACK
4	0	10	-	In Entry	1	0	01	ACK
4	4	14	-	In Data Preset	1	0	01	ACK
4	0	18	-	In + Shift	1	0	01	ACK
4	0	19	-	In - Shift	1	0	01	ACK
4	0	20	-	In Reset	1	0	01	ACK
4	0	24	-	In Recall	1	0	01	ACK
4	4	31	-	Preroll Time Preset	1	0	01	ACK
4	X	3E	-	Rec Inhibit Preset	1	0	01	ACK
6	1	0A	01	TC Gen Data Sense	7	4	08	Gen Time Data
6	1	0A	10	TC Gen Data Sense	7	4	09	Gen UB Data (UB: Fix to 0)
6	1	0A	11	TC Gen Data Sense	7	8	08	Gen TC & UB Data (UB: Fix to 0)
6	1	0C	01	Current Time Sense	7	4	04	TC (main) Data
6	1	0C	02	Current Time Sense	7	4	06	TC (main) Data
6	1	0C	03	Current Time Sense	7	4	04	TC (main) Data
6	1	0C	10	Current Time Sense	7	4	05	UB (main) Data (UB: Fix to 0)
6	1	0C	11	Current Time Sense	7	8	04	TC & UB (main) Data (UB: Fix to 0)
6	1	0C	20	Current Time Sense	7	4	07	UB (main) Data (UB: Fix to 0)
6	1	0C	22	Current Time Sense	7	8	06	TC & UB (main) Data (UB: Fix to 0)
6	1	0C	30	Current Time Sense	7	4	05	UB (main) Data (UB: Fix to 0)
6	1	0C	33	Current Time Sense	7	8	04	TC & UB (main) Data (UB: Fix to 0)
6	0	10	-	In Data Sense	7	4	10	In Data
6	1	20	-	Status Sense	7	X	20	Status Data
6	0	2B	-	Remain Time Sense	7	6	2B	Remain Data
6	0	31	-	Preroll Time Sense	7	3	31	Preroll Time Data
6	0	36	-	Timer Mode Sense	7	1	36	Timer Mode Data
6	0	3E	-	Rec Inhibit Sense	7	2	3E	Rec Inhibit Status

Table 8.3.4 RS-422A Command List

4.17 IC BLOCK DIAGRAMS

■ AK4363VF-X [ASAHI KASEI]
(Stereo CMOS D/A Converter and Phase Locked Loop)

Pin Layout

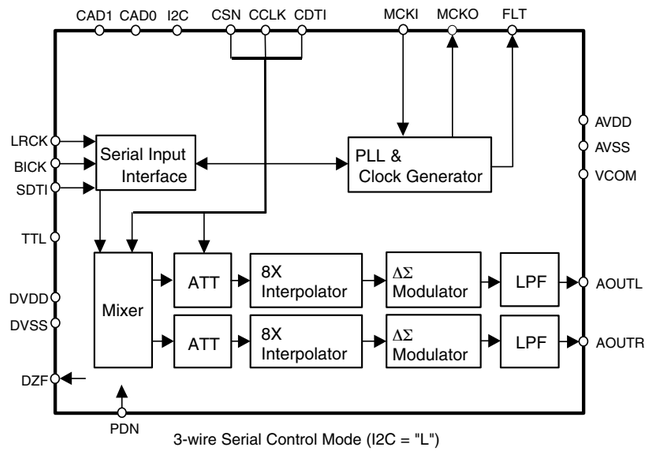


Pin/Function

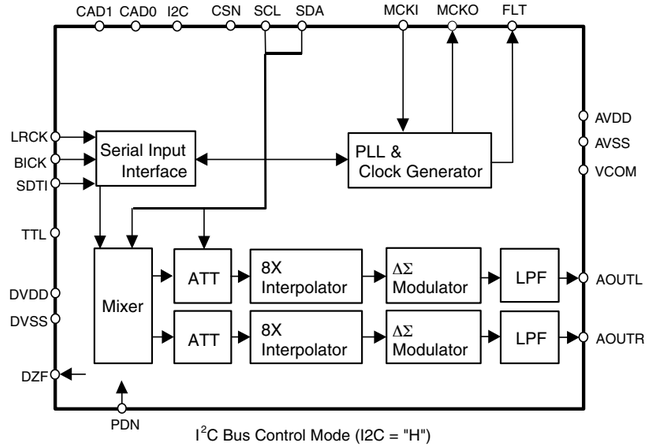
No.	Pin Name	I/O	Description
1	MCKO	O	Master Clock Output Pin EXT = "0" : System clock is output from PLL circuit (PLL mode), EXT = "1" : Same frequency as MCKI is output (External mode)
2	NC	-	No Connect Nothing should be connected externally to this pin.
3	DVDD	-	Digital Power Supply Pin, +2.7– +5.5V
4	DVSS	-	Digital Ground Pin, 0V
5	MCKI	I	System Clock Input Pin EXT = "0" : 27MHz (PLL mode), EXT = "1" : Other frequency (External mode)
6	BICK	I	Serial Data Clock Pin
7	SDTI	I	Serial Data Input Pin
8	LRCK	I	Serial Input Channel Clock Pin
9	PDN	I	Power-Down Pin When "L", the circuit is in power-down mode. The AK4363 should always be reset upon power-up.
10	CSN	I	Chip Select Pin at 3-wire Serial control mode This pin should be connected to DVDD at I²C Bus control mode.
11	SCL	I	Control Clock Pin at I²C bus control mode
	CCLK	I	Control Clock Pin at 3-wire serial control mode
12	SDA	I/O	Control Data Input/Output Pin at I²C Bus control mode
	CDTI	I	Control Data Input Pin at 3-wire serial control mode
13	TST	I	Test pin This pin should be connected to DVSS.
14	TTL	I	Digital Input Level Select Pin "L" : CMOS, "H" : TTL
15	I2C	I	Control Mode Select Pin "L" : 3-wire Serial, "H" : I²C Bus
16	CAD0	I	Chip Address Select 0 Pin
17	CAD1	I	Chip Address Select 1 Pin
18	AOUTR	O	Rch Analog Output Pin
19	AOUTL	O	Lch Analog Output Pin
20	VCOM	O	Common Voltage Output Pin, AVDD/2 Used for analog common voltage. Large external capacitor is used to reduce power supply noise.
21	AVSS	-	Analog Ground Pin
22	AVDD	-	Analog Power Supply Pin
23	FLT	O	Output Pin for Loop Filter of PLL Circuit This pin should be connected to AVSS with one resister and one capacitor in series. (See"SYSTEM DESIGN".)
24	DZF	O	Zero Input Detect Pin When SDTI follows a total 8192 LRCK cycles with "0" input data or RSTN = "0", this pin goes to "H".

Note: No input pins should be left floating.

Block Diagram

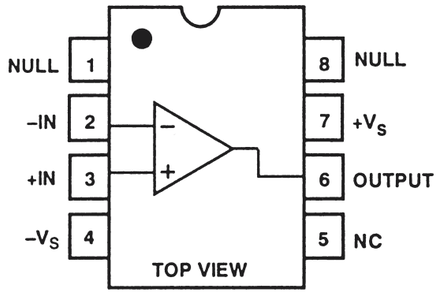


3-wire Serial Control Mode (I2C = "L")



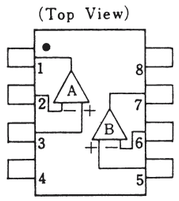
I²C Bus Control Mode (I2C = "H")

■ AD817AR-X [ANALOG DEVICES]
(Hi-Speed Low Power Op.Amp)



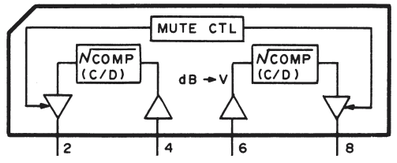
NC = NOT CONNECTED

■ BA10393F-XE [ROHM]
(Dual Comparator)



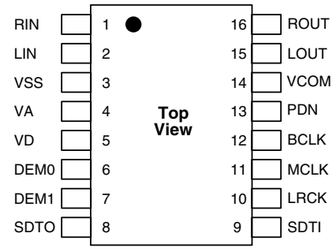
Pin
1. A OUTPUT
2. A–INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B–INPUT
7. B OUTPUT
8. V⁺

■ BA6138F-X [ROHM]
(1/2 square-law compression amplifiers)



■ AK4552VT-X [ASAHI KASEI]
(Degital Audio A/D & D/A Converter)

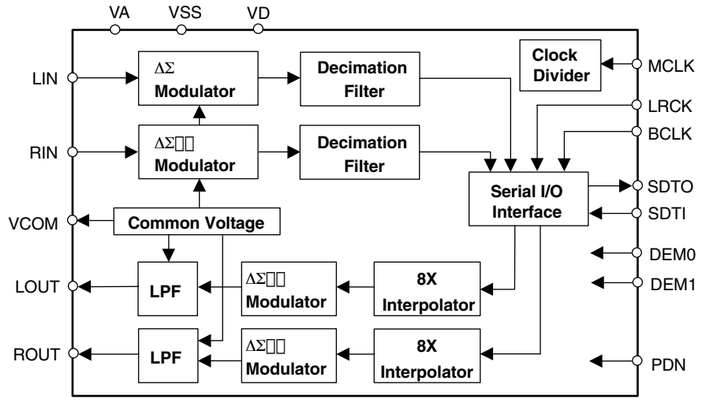
Pin Layout



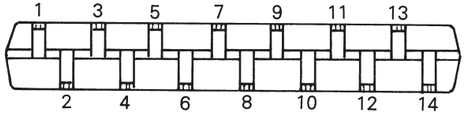
Pin/Function

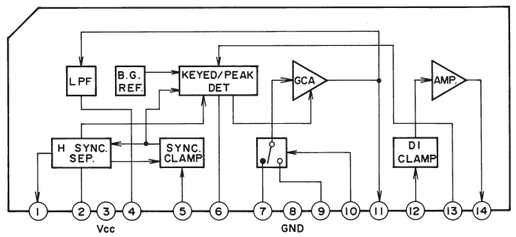
No.	Pin Name	I/O	Function
1	RIN	I	Rch Analog Input Pin
2	LIN	I	Lch Analog Input Pin
3	VSS	-	Ground Pin
4	VA	-	Analog Power Supply Pin
5	VD	-	Digital Power Supply Pin
6	DEM0	I	De-emphasis Control Pin
7	DEM1	I	De-emphasis Control Pin
8	SDTO	O	Audio Serial Data Output Pin
9	SDTI	I	Audio Serial Data Input Pin
10	LRCK	I	Input/Output Channel Clock Pin
11	MCLK	I	Master Clock Input Pin
12	BCLK	I	Audio Serial Data Clock Pin
13	PDN	I	Power-Down & Reset Mode Pin "L": Power-down and Reset, "H": Normal operation
14	VCOM	O	Common Voltage Output Pin, 0.45 x VA
15	LOUT	O	Lch Analog Output Pin
16	ROUT	O	Rch Analog Output Pin

Block Diagram

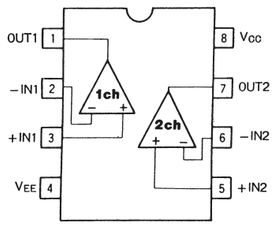


■ AN3916-/LF/ [MATSUSHITA]
(Video AGC)

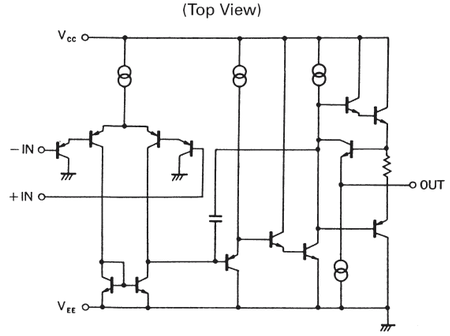




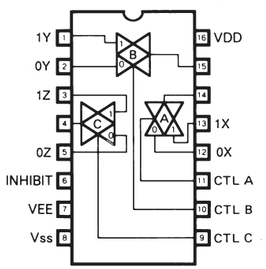
■ BA10358F-XE [ROHM]
(Dual Ground Sense Op.Amp)



(Top View)



■ CD4053BPW-X [RCA]
(Triple 2 Channel Analog Multiplexers/Demultiplexers)



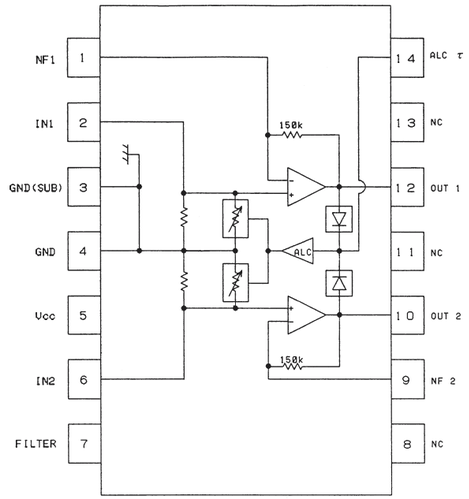
(TOP VIEW)

TRUTH TABLE

CONTROL INPUTS				"ON" CHANNEL
INHIBIT	C	B	A	4053BP 4053BF
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y,0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

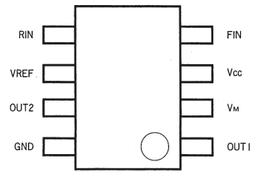
* Don't Care,

■ BA3314F-X [ROHM]
(Dual Pre-Amp. for Audio Signal)

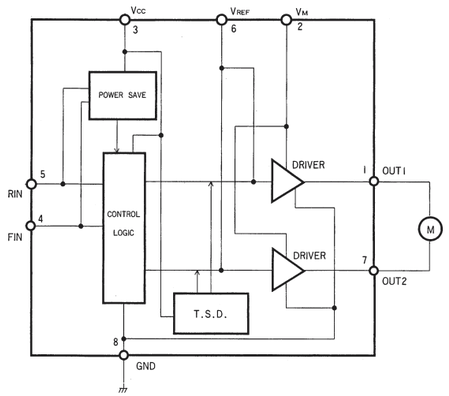


(Top View)

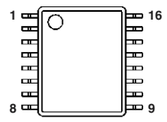
■ BA6417F-X [ROHM]
(Reversible Motor Driver)



Top view

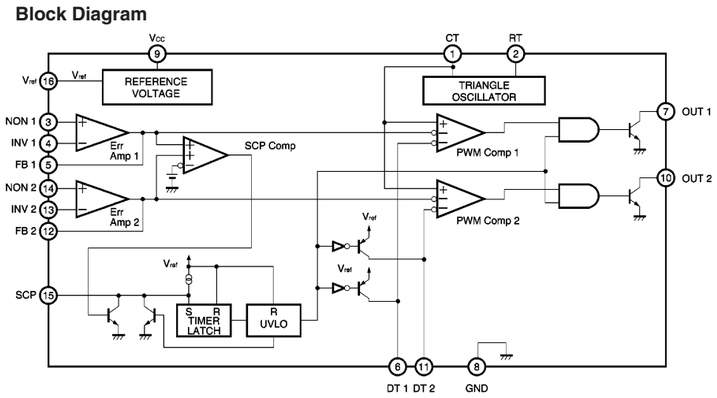


■ BA9743AFV-X [ROHM]
(2-channel Switching Regulator Controller)

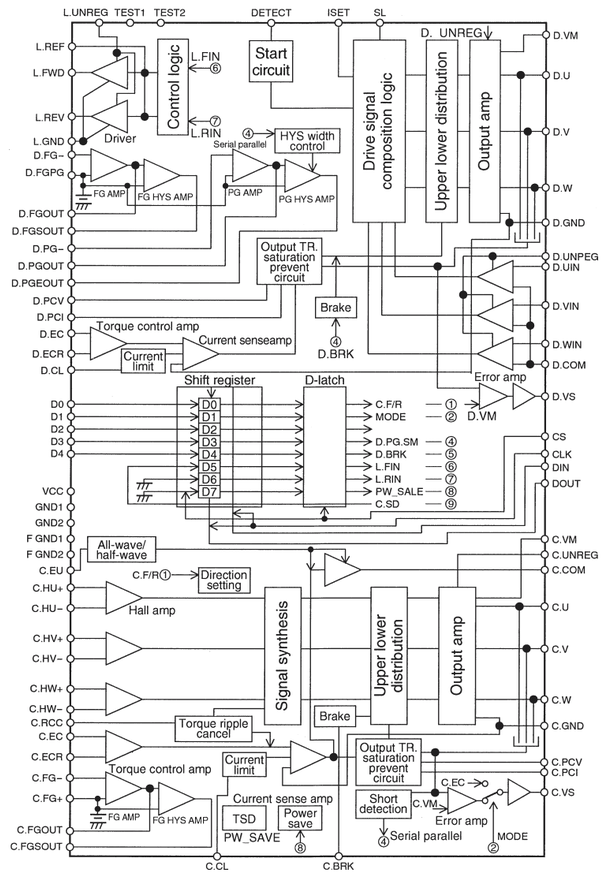


(Top View)

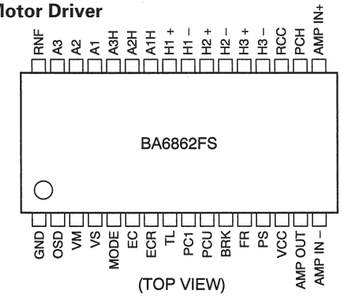
Block Diagram



■ BA6865KV [ROHM]
(Motor Driver Controller)

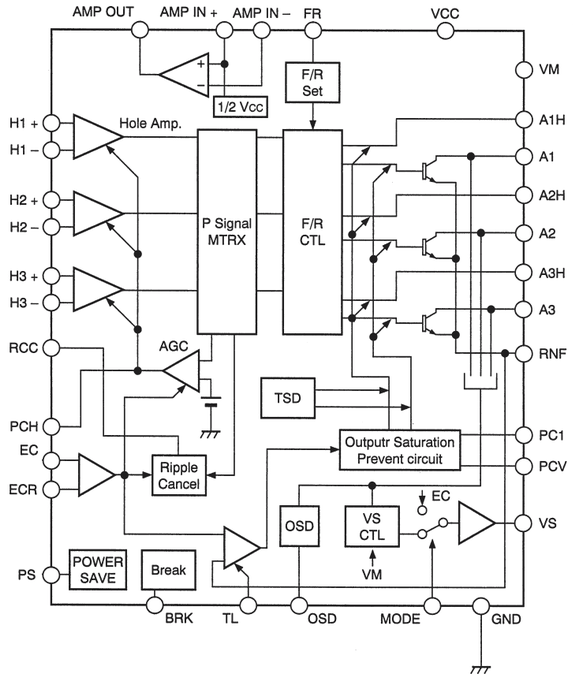


■ BA6862FS-X [ROHM]
(Motor Driver

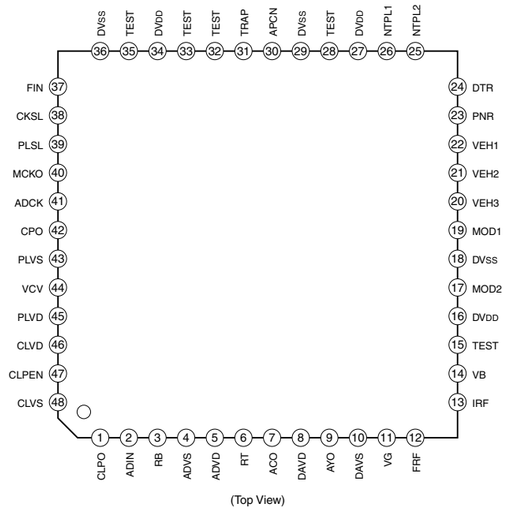


(TOP VIEW)

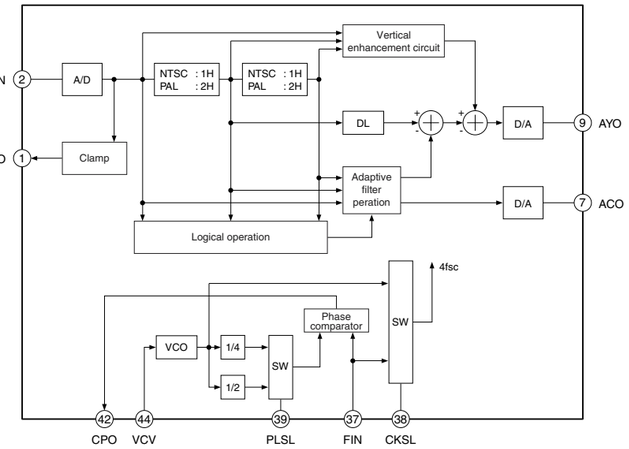
Pin No.	Symbol	Function
1	GND	GND
2	OSD	Output detect for short circuit
3	VM	Power source for motor drive
4	VS	Control for motor drive
5	MODE	Current/Voltage switching
6	EC	Torque control
7	ECR	Torque reference
8	TL	Torque limited
9	PCI	Output saturation prevent level (low level)
10	PCV	Output saturation prevent level (high level)
11	BRK	Break input H : Break L : Movement
12	FR	Foward/Reverse CTL input
13	PS	Power save H : Stand-by L : Movement
14	VCC	
15	AMP OUT	Amplifire output
16	AMP IN –	Amplifire input (–)
17	AMP IN +	Amplifire input (+)
18	PCH	Hole amp, AGC phase compareter
19	RCC	Ripple cancel
20	H3 –	Hole signal input
21	H3 +	Hole signal input
22	H2 –	Hole signal input
23	H2 +	Hole signal input
24	H1 –	Hole signal input
25	H1 +	Hole signal input
26	A1H	Pre motor drive output
27	A2H	Pre motor drive output
28	A3H	Pre motor drive output
29	A1	Motor drive output
30	A2	Motor drive output
31	A3	Motor drive output
32	RNF	GND for motor drive



■ CXD2064Q [SONY]
(DIGITAL COM FILTER (NTSC/PAL))



(Top View)



Pin Description

Pin No.	Symbol	I/O	Description
1	CLPO	O	Internal clamp circuit current output. Connect to ADIN when using the internal clamp. Leave this pin open when not in use.
2	ADIN	I	Comb filter analog input (A/D converter input).
3	RB	O	Reference bottom voltage for the A/D converter (0.52V typ.).
4	ADVS	—	A/D converter analog ground.
5	ADVD	—	A/D converter analog power supply. (5.0V)
6	RT	O	Reference top voltage for the A/D converter (2.60V typ.).
7	ACO	O	Analog chroma signal output. Output can be obtained by connecting a resistor between this pin and the analog ground.
8	DAVD	—	D/A converter analog power supply. (5.0V)
9	AYO	O	Analog luminance signal output. Output can be obtained by connecting a resistor between this pin and the analog ground.
10	DAVS	—	D/A converter analog ground.
11	VG	O	D/A converter related pin. Connect a capacitor of approximately 0.1μF between this pin and the analog power supply (DAVD).
12	VRF	I	Sets the full-scale value of the Y and C-channel D/A converter output signal.
13	IRF	O	Connect a resistor of "16R" (16 times the output resistor "R" of the D/A converter).
14	VB	O	D/A converter related pin. Connect to the analog ground (DAVS) via a capacitor of approximately 0.1μF.
15	TEST	I	Test pin. Normally fix to "Low".
16	DVDD	—	Digital power supply. (5.0V)
18	DVSS	—	Digital ground.
17	MOD2	I	Y/C separation mode setting. MOD2 MOD1 L L Adaptive processing mode H L BPF separation mode H H Through mode
19	MOD1	I	
20	VEH3	I	Vertical enhancement setting. Can be set in 8 stages from VEH3 VEH2 VEH1: LLL (off) to HHH (max.)
21	VEH2	I	
22	VEH1	I	
23	PNR	I	L: NTSC/H: PAL, M-PAL, N-PAL
24	DTR	I	Normally fix to "Low".
25	NTPL2	I	NTSC/PAL/M-PAL/N-PAL mode setting. NTPL2 NTPL1 L L NTSC L H PAL H L M-PAL H H N-PAL
26	NTPL1	I	
27	DVDD	—	Digital power supply. (5.0V)

Pin No.	Symbol	I/O	Description
28	TEST	I	Test pin. Normally fix to "Low".
29	DVSS	—	Digital ground.
30	APCN	I	Horizontal aperture correction circuit setting. Low: Off, High: On.
31	TRAP	I	Trap filter setting. Low: Off, High: On.
32	TEST	I	Test pin. Normally open or fix to "Low".
33	TEST	I	Test pin. Normally open or fix to "Low".
34	DVDD	—	Digital power supply. (5.0V)
35	TEST	I	Test pin. Normally open or fix to "Low".
36	DVSS	—	Digital ground.
37	FIN	I	Clock input. Input the burst-locked fsc (2fsc) when using the internal PLL. Input the burst-locked 4fsc when not using the internal PLL.
38	CKSL	I	PLL control. Low: The internal PLL is not used. The clock (4fsc) which is input to FIN is supplied internally. High: The internal PLL is used. VCO oscillation output 4fsc clock is supplied internally.
39	PLSL	I	Selects the clock input to FIN. Low: fsc, High: 2fsc. When inputting 4fsc to FIN (when not using the internal PLL), this pin may be set to either "Low" or "High".
40	MCKO	O	Clock (4fsc) output.
41	ADCK	I	Clock input for A/D converter. Normally connect to MCKO.
42	CPO	O	PLL phase comparator output. Leave open when not using the PLL.
43	PLVS	—	PLL analog ground.
44	VCV	I	VCO control voltage input. Connect to PLVS when not using the PLL.
45	PLVD	—	PLL analog power supply. (5.0V)
46	CLVD	—	Clamp D/A converter analog power supply. (5.0V)
47	CLPEN	I	Clamp circuit enable pin. Low: Clamp on, High: Clamp off.
48	CLVS	—	Clamp D/A converter analog ground.

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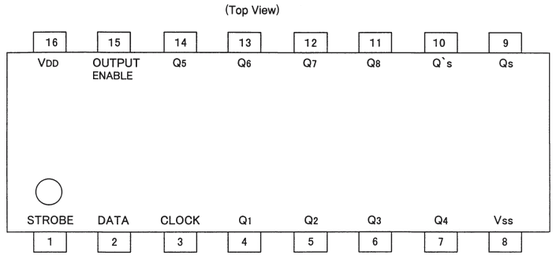
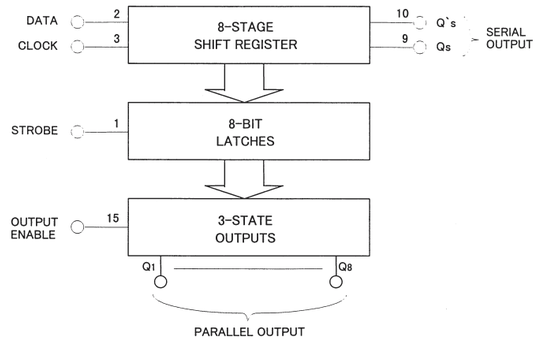
■ BU4094BCFV-X [ROHM]
(8-Stage Shift/Store Register)

(Top View)

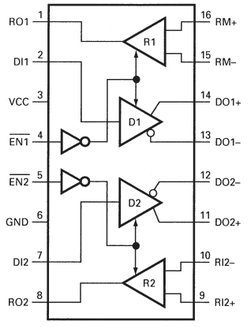




■ DS8922M-X [NATIONAL SEMICONDUCTOR]
(RS-422 Dual Differential Line Driver and Receiver Pairs)

Connection Diagrams

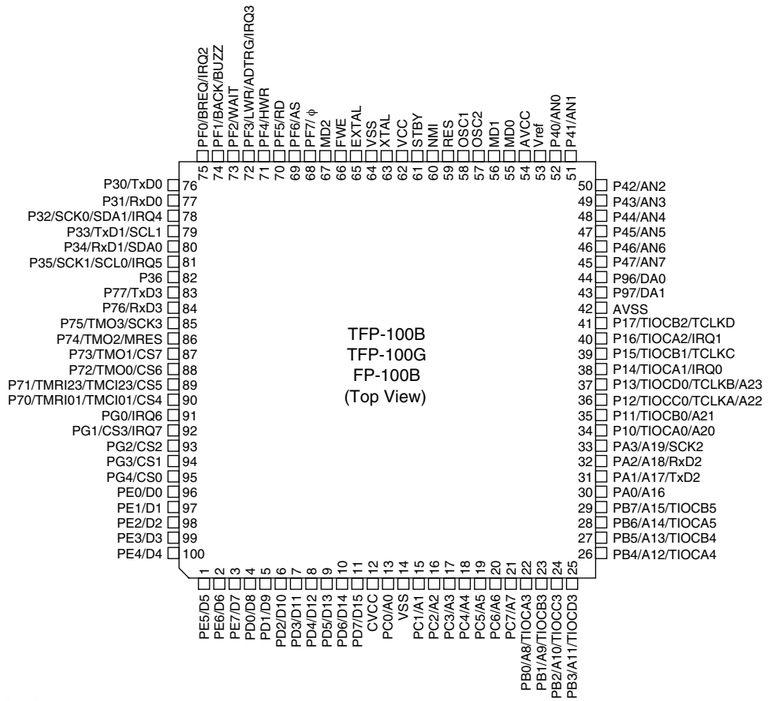
DS8922A Dual-In-Line



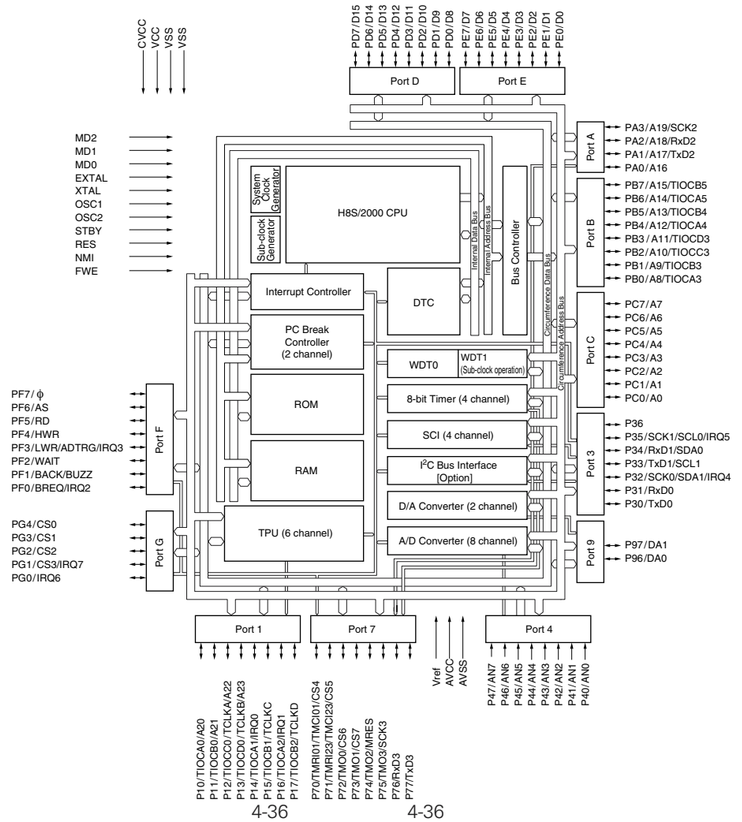
Top View

EN1	EN2	RO1	RO2	DO1	DO2
0	0	ACTIVE	ACTIVE	ACTIVE	ACTIVE
1	0	HI-Z	ACTIVE	HI-Z	ACTIVE
0	1	ACTIVE	HI-Z	ACTIVE	HI-Z
1	1	HI-Z	HI-Z	HI-Z	HI-Z

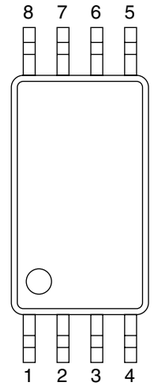
■ HD64F2238RFA13 [HITACHI]
(16-Bit Single Chip Micro Computer)



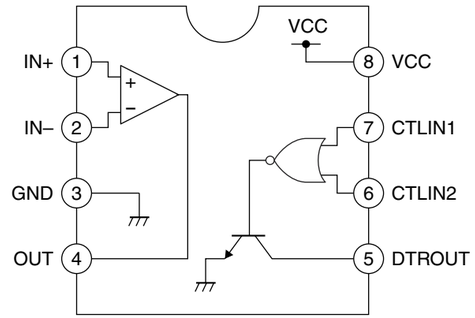
Block diagram



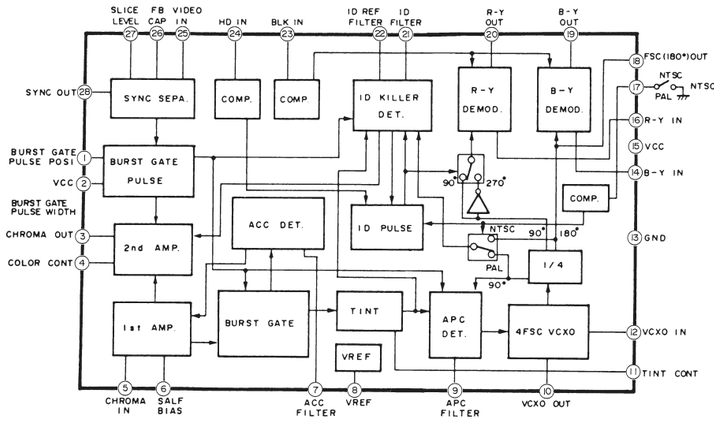
■ JCY0136-X [ROHM]
(High frequency operational amplifier for DVC)



Block diagram



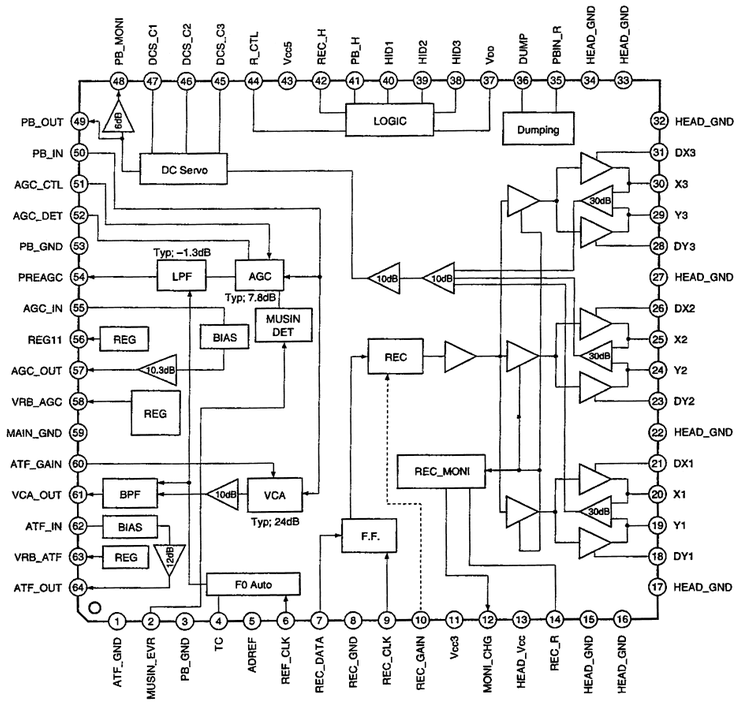
■ M51271FP-X [MITSUBISHI]
(Component Decoder)



4-36

■ JCY0132 [SONY]
(REC/PLAY amplifier for digital VCR)

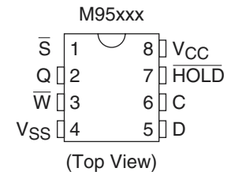
Block diagram



Pin description

Pin No.	Pin name	Description	Pin No.	Pin name	Description
1	ATF_GND	Ground terminal	36	DUMP	HEAD resonance control terminal at playback mode
2	MUSIN_EVR	EVR terminal for non-signal detection level adjustment of AGC circuit	37	VDD	VDD power supply terminal
3	PB_GND	Ground terminal	38	HID3	Mode control terminal, channel select of playback amplifier and control of recording current measurement circuit
4	TC	Time constant terminal for F0 auto PLL circuit	39	HID2	Mode control terminal, channel select of recording/playback amplifier
5	ADREF	ADREF power supply terminal ADREF	40	HID1	Mode control terminal, channel select of recording/playback amplifier
6	REF_CLK	Reference clock input terminal for F0 auto PLL	41	PB_H	Mode control terminal, ON/OFF of playback circuit
7	REC_DATA	REC DATA input terminal	42	REC_H	Mode control terminal, ON/OFF of recording circuit
8	REC_GND	Ground terminal	43	Vcc5	Vcc5 power supply terminal
9	REC_CLK	REC CLOCK input terminal	44	R_CTL	Mode control terminal, ON/OFF of recording current output
10	REC_GAIN	Adjusting terminal for recoding current	45	DCS_C3	Time constant terminal for DC servo circuit
11	Vcc3	Vcc3 power supply terminal	46	DCS_C2	Time constant terminal for DC servo circuit
12	MONI_CHG	Monitor terminal for recording current output level : REC mode, Quick charge pulse input terminal of TC terminal : PB mode	47	DCS_C1	Time constant terminal for DC servo circuit
13	HEAD_Vcc	Power supply terminal of R/P amplifier section	48	PB_MONI	PB amplifier monitor terminal
14	REC_R	External resistor connecting terminal for recording current output level monitor	49	PB_OUT	PB amplifier output terminal
15	HEAD_GND	Ground terminal	50	PB_IN	PB MAIN/ATF input terminal
16	HEAD_GND	Ground terminal	51	AGC_CTL	AGC control terminal for MAIN family
17	HEAD_GND	Ground terminal	52	AGC_DET	Time constant terminal for MAIN family
18	DY1	Damping resistor connecting terminal	53	PB_GND	Ground terminal
19	Y1	HEAD terminal	54	PREAGC	AGC+LPF output terminal for MAIN family
20	X1	HEAD terminal	55	AGC_IN	10.3dB amplifier input terminalfor MAIN family
21	DX1	Damping resistor connecting terminal	56	REG11	Regulator 1.1V output terminal
22	HEAD_GND	Ground terminal	57	AGC_OUT	Output terminal for MAIN family
23	DY2	Damping resistor connecting terminal	58	VRB_AGC	Bottom reference voltage output terminal for A/D converter of MAIN family
24	Y2	HEAD terminal	59	MAIN_GND	Ground terminal
25	X2	HEAD terminal	60	ATF_GAIN	VCA control terminal for ATF family
26	DX2	Damping resistor connecting terminal	61	VCA_OUT	VCA+BPF output terminal for ATF family
27	HEAD_GND	Ground terminal	62	ATF_IN	12dB amplifier input terminal for ATF family
28	DY3	Damping resistor connecting terminal	63	VRB_ATF	Bottom reference voltage output terminal for A/D converter of ATF family
29	Y3	HEAD terminal	64	ATF_OUT	Output terminal for ATF family
30	X3	HEAD terminal			
31	DX3	Damping resistor connecting terminal			
32	HEAD_GND	Ground terminal			
33	HEAD_GND	Ground terminal			
34	HEAD_GND	Ground terminal			
35	PBIN_R	External resistor connecting terminal for playback reference current			

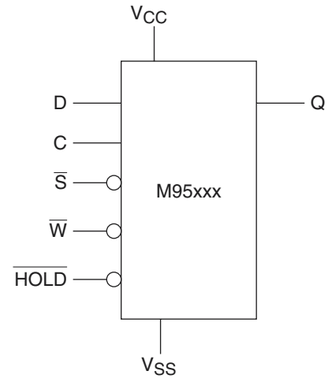
■ M95320-WMN6-X [ST MICROELECTRONICS]
(64/32 Kbit Serial SPI Bus EEPROM)



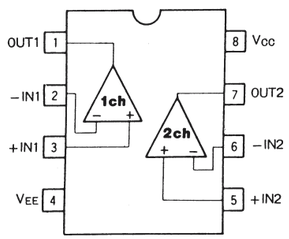
Signal Names

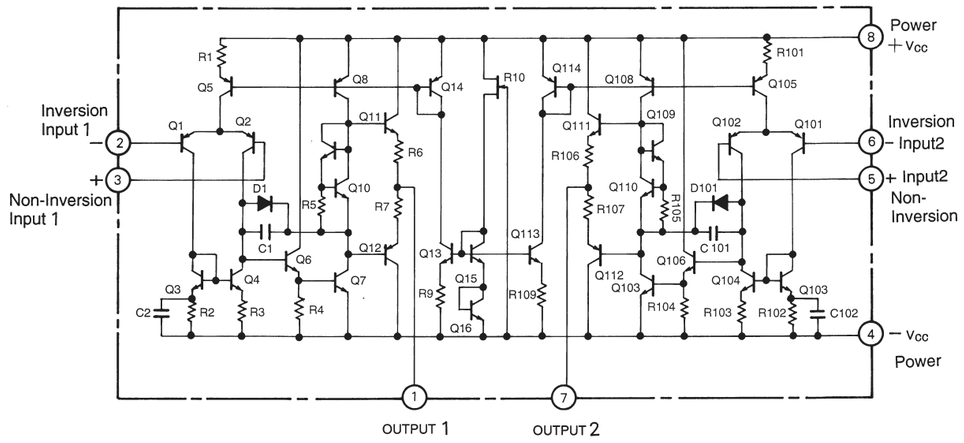
C	Serial Clock
D	Serial Data Input
Q	Serial Data Output
$\overline{S}$	Chip Select
$\overline{W}$	Write Protect
$\overline{HOLD}$	Hold
V_{CC}	Supply Voltage
V_{SS}	Ground

Logic Diagram

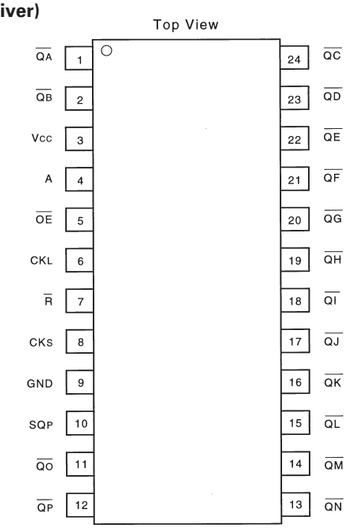


■ M5218AFP-X [MITSUBISHI]
(Dual Op.Amp.)

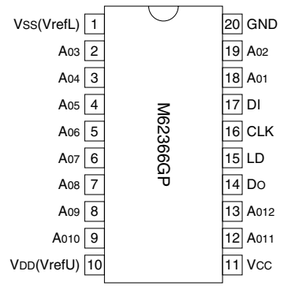




■ M66311FP-X [MITSUBISHI]
(LED Driver)



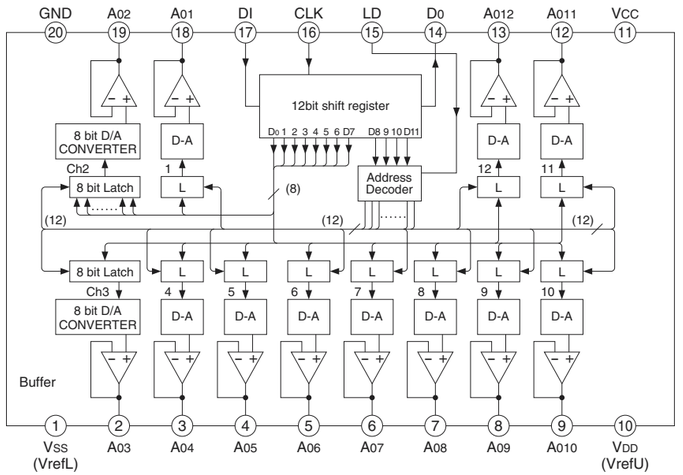
■ M62366GP-X [MITSUBISHI]
(8bit 12channel D/A converter)



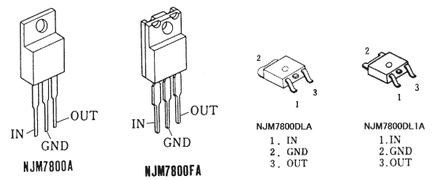
(TOP VIEW)

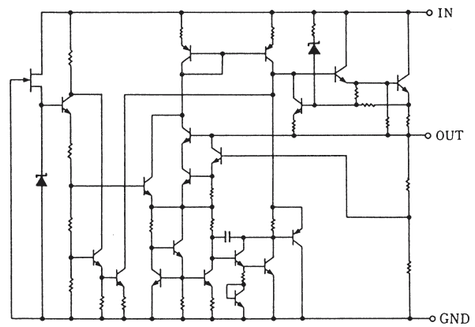
Pin No.	Symbol	Function
⑰	DI	Serial data input terminal to input 12-bit long serial data
⑭	DO	Terminal to output MSB data of 12-bit shift register
⑯	CLK	Shift clock input terminal.Input signal at DI pin is input to 12-bit shift register at rise of shift clock pulse
⑮	LD	When H-level signal is input to this terminal,the value stored in 12-bit shift register is loaded in decoder and D-A converter output register
⑱ ⑲ ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑫ ⑬	A01 A02 A03 A04 A05 A06 A07 A08 A09 A010 A011 A012	8-bit D-A converter output terminal
⑪	VCC	Power supply terminal
⑳	GND	GND terminal
⑩	VDD	D-A converter upper reference voltage input terminal
①	VSS	D-A converter lower reference voltage input terminal

Block Diagram

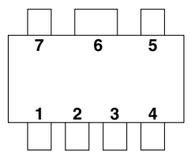

GND A02 A01 DI CLK LD DO A012 A011 VCC
20 19 18 17 16 15 14 13 12 11
12bit shift register
D0 1 2 3 4 5 6 D7 D8 9 10 D11
8 bit D/A CONVERTER
D-A
Ch2
8 bit Latch
L
(8)
Address Decoder
(12)
Ch3
Buffer
1 2 3 4 5 6 7 8 9 10
VSS (VrefL)
A03 A04 A05 A06 A07 A08 A09 A010
VDD (VrefU)

■ NJM78M05DL1A-X [JRC]
(3-Terminal Positive Voltage Regulator (+5V))





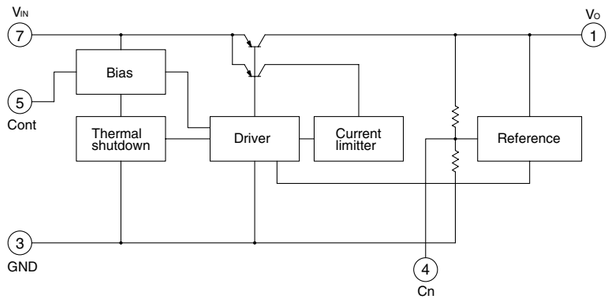
■ MM1565AF-X [MITSUMI]
(500mA Regulator (5V))



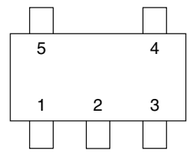
(TOP VIEW)

1	VO
2	NC
3	GND
4	Cn
5	CONT
6	Sub
7	VIN

Block Diagram



■ MM1571JN-X [MITSUMI]
(1.8V Regulator)

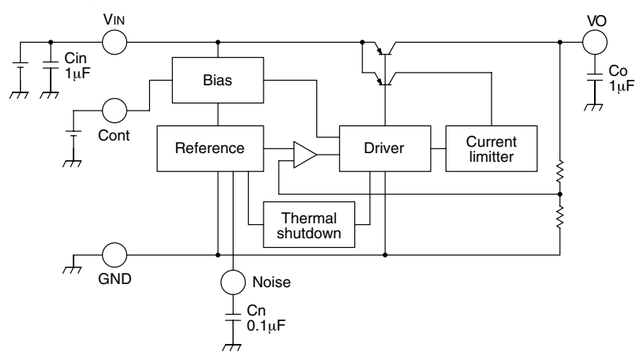


SOT-25A

(TOP VIEW)

1	VIN
2	GND
3	Cont
4	Noise
5	VO

Block Diagram



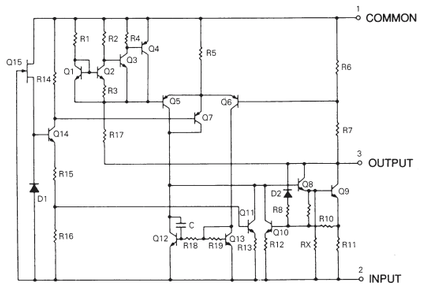
■ MM1572FN-X [MITSUMI]
(Refer to MM1571JN-X.)

■ MM1572KN-X [MITSUMI]
(Refer to MM1571JN-X.)

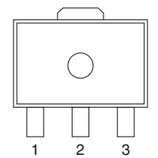
■ NJM79L05UA-X [JRC]
(3-Terminal Negative Voltage Regulator (-5V))

1. COMMON
2. IN
3. OUT

NJM79L00UA



■ NJU7222U30-X [JRC]
(3-Terminal Positive Voltage Regulator)

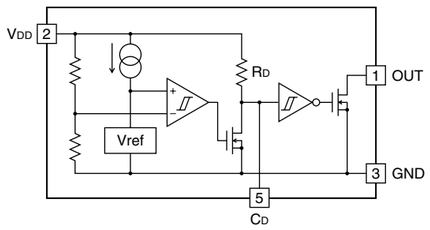


1. GND
2. INPUT
3. OUTPUT

4-38

■ RN5VD26AA-X [RICHO]
(Voltage detector)

Block diagram

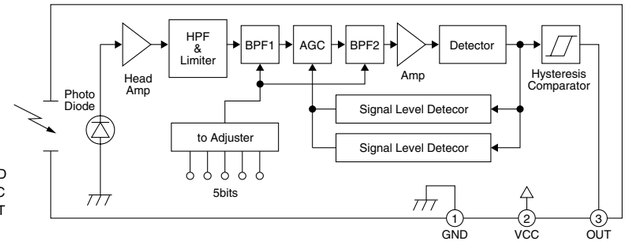


Pin descriptions

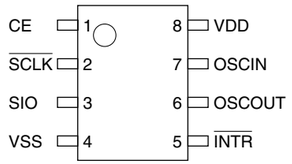
Pin Number	Pin Name	Pin Description
1	OUT	Output terminal
2	VDD	Power supply terminal
3	GND	Ground terminal
4	NC	Not connect
5	CD	External capacitor connecting terminal for delay

■ SBX3071-52 [SONY]
(Remote Control Receiver)

Block Diagram

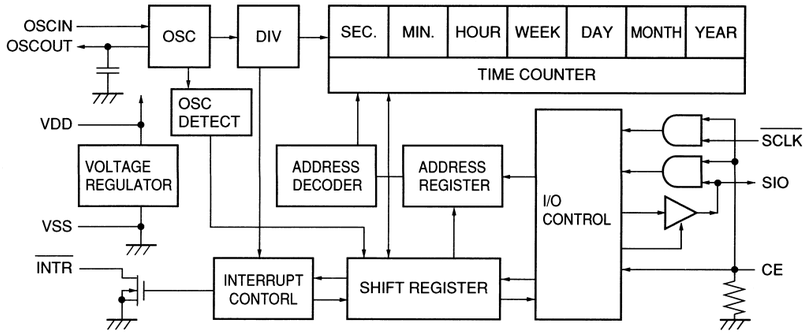


■ RS5C314-X [RICHO]
(CMOS Realtime Clock)

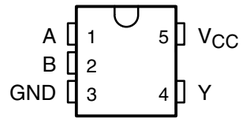


(Top view)

Block diagram



■ SN74AHC1G00K-X [TEXAS INSTRUMENTS]
(Single 2-Input Positive NAND Gate)

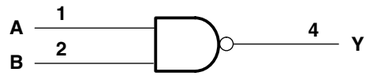


(TOP VIEW)

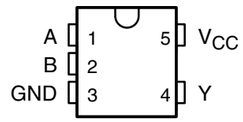
FUNCTION TABLE

INPUTS A	INPUTS B	OUTPUT Y
H	H	L
L	X	H
X	L	H

Logic diagram (positive logic)



■ SN74AHC1G32K-X [TEXAS INSTRUMENTS]
(Single 2-Input Positive OR Gate)

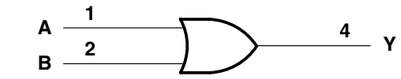


(TOP VIEW)

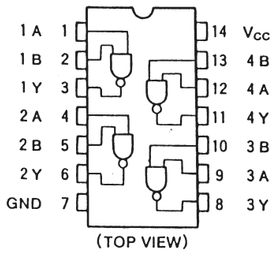
FUNCTION TABLE

INPUTS A	INPUTS B	OUTPUT Y
H	X	H
X	H	H
L	L	L

Logic diagram (positive logic)



■ SN74AHC00PW-X [TEXAS INSTRUMENTS]
(Quad 2-Input NAND Gates)

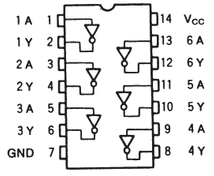


(TOP VIEW)

TRUE Table

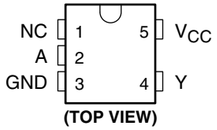
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

■ SN74AHC04PW-X [TEXAS INSTRUMENTS]
(Hex Inverters)



(TOP VIEW)

■ SN74AHC1GU04K-X [TEXAS INSTRUMENTS]
(Single Inverter Gate)

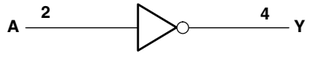


(TOP VIEW)

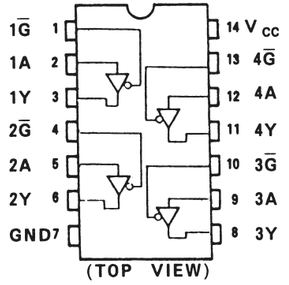
NC – No internal connection

FUNCTION TABLE

INPUT A	OUTPUT Y
H	L
L	H



■ SN74AHCT125PW-X [TEXAS INSTRUMENTS]
(Quad Bus Buffer Gates With 3-State Outputs)



(TOP VIEW)

TC74HC125A TRUE Table

INPUTS G	INPUTS A	OUTPUTS Y
H	X	Z
L	L	L
L	H	H

X : Don't Care
Z : High Impedance

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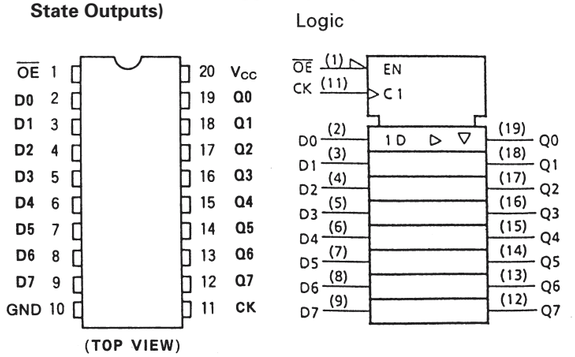
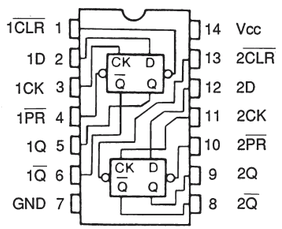
■ SN74AHC574PW-X [TEXAS INSTRUMENTS]
(Octal D-Type EDGE-Trigger Flip-Flop With NON Inverted 3-State Outputs)



INPUTS			OUTPUT
$\overline{OE}$	CK	D	
H	X	X	Z
L	↑	X	Q_n
L	↓	L	L
L	↓	H	H

X : Don't Care
Z : High Impedance
Q_n : No Change

■ SN74AHC74PW-X [TEXAS INSTRUMENTS]
(Dual D-Type Flip-Flop with Preset and Clear)

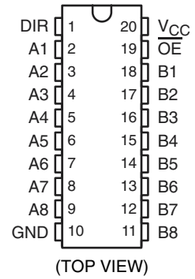


TRUE Table

INPUTS				OUTPUTS		FUNCTION
$\overline{CLR}$	$\overline{PR}$	D	CK	Q	$\overline{Q}$	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↓	L	H	—
H	H	H	↓	H	L	—
H	H	X	L	Q_n	$\overline{Q}_n$	NO CHANGE

X : Don't care

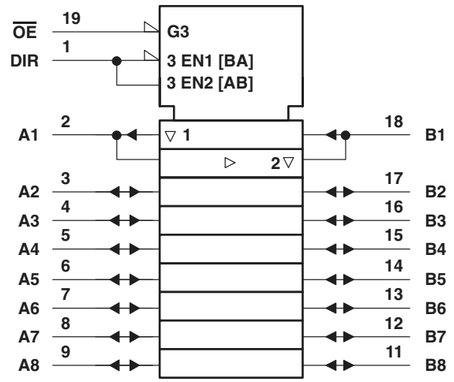
■ SN74AHC245DGV-X [TEXAS INSTRUMENTS]
(Octal Bus Transceivers with 3-State Outputs)



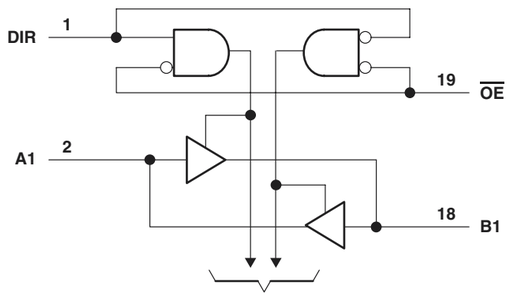
FUNCTION TABLE
(each transceiver)

INPUTS		OPERATION
$\overline{OE}$	DIR	
L	L	B data to A bus
L	H	A data to B bus
H	X	Isolation

Logic symbol

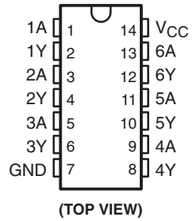


Logic diagram (positive logic)



To Seven Other Channels

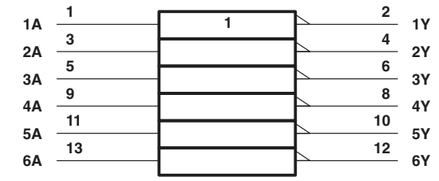
■ SN74AHCT04PW-X [TEXAS INSTRUMENTS]
(Hex Inverters)



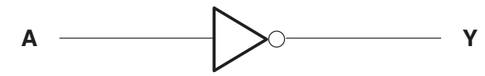
FUNCTION TABLE
(each inverter)

INPUT A	OUTPUT Y
H	L
L	H

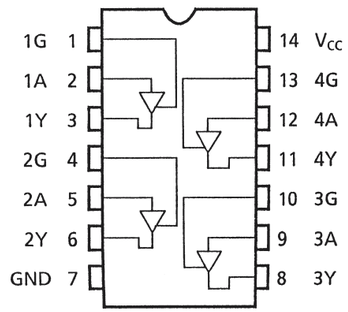
Logic symbol



Logic diagram, each inverter (positive logic)



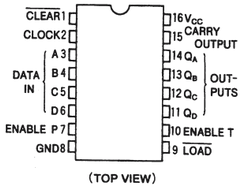
■ SN74LV126ADGV-X [TEXAS INSTRUMENTS]
(Bus Buffer Gates with 3-State Output)



INPUTS		OUTPUTS
G	A	Y
L	X	Z
H	L	L
H	H	H

X: Don't Care
Z : High Impedance

■ SN74HC161APW-X [TEXAS INSTRUMENTS]
(Synchronous 4-Bit Counters Binary, Direct Clear)

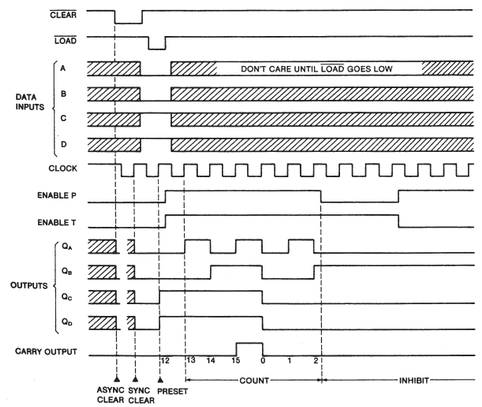


• THRU TABLE

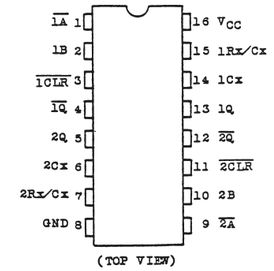
INPUTS					OUTPUTS				FUNCTION
$\overline{CLR}$	$\overline{LD}$	ENP	ENT	CK	Q_A	Q_B	Q_C	Q_D	
L	X	X	X	X	L	L	L	L	Reset to "0"
H	L	X	X	↑	A	B	C	D	Preset Data
H	H	X	L	X	No change				Do not count
H	H	L	X	X	No change				Do not count
H	H	H	H	↑	Count up				Count

Note X : Don't care
A,B,C,D : Logic level of input data
Carry : CARRY=ENT·Q_A·Q_B·Q_C·Q_D

Timing chart



■ TC74VHC221AFT-X [TOSHIBA]
(Dual Monostable Multivibrators (With Schmitt Trigger Input))

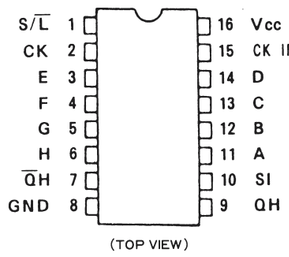


True Table

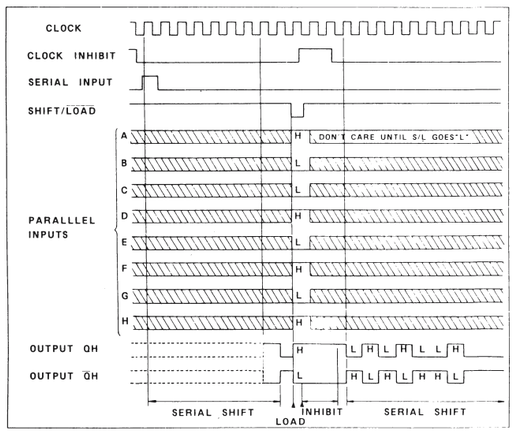
INPUTS			OUTPUTS		NOTE
$\overline{A}$	B	CL	Q	$\overline{Q}$	
↓	H	H	⊓	⊔	OUTPUT ENABLE
X	L	H	L	H	INHIBIT
H	X	H	L	H	INHIBIT
L	↓	H	⊓	⊔	OUTPUT ENABLE
L	H	↓	⊓	⊔	OUTPUT ENABLE
X	X	L	L	H	INHIBIT

X : DON'T CARE

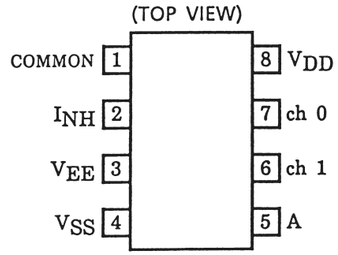
■ SN74LV165ADGV-X [TEXAS INSTRUMENTS]
(8-Bit Serial or Parallel-In/Serial Out Shift Registers)



Timing chart



■ TC4W53FU-X [TOSHIBA]
(2-Channel Multiprexer)



Truth table

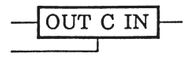
CONTROL C	IMPEDANCE BETWEEN IN-OUT ※
H	$0.5\sim5\times10^{2}\Omega$
L	$>10^{9}\Omega$

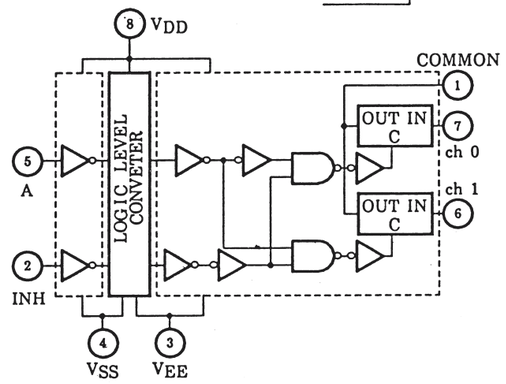
※ Don't Care

Truth table

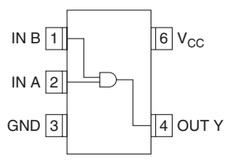
CONTROL INPUT		ON CHANNEL
INH	A	
L	L	ch 0
L	H	ch 1
H	※	NONE

※ Don't Care





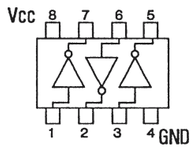
■ TC7SET08F-X [TOSHIBA]
(2-input AND GATE)



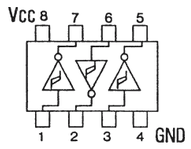
TRUTH TABLE

A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

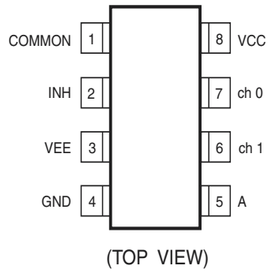
■ TC7W04F-X [TOSHIBA]
(Triple Inverter Gate)



■ TC7W14FU-X [TOSHIBA]
(Schmitt Trigger Triple Inverte Gate)



■ TC7W53FU-X [TOSHIBA]
(2-Channel Multiplexer/Demultiplexer)

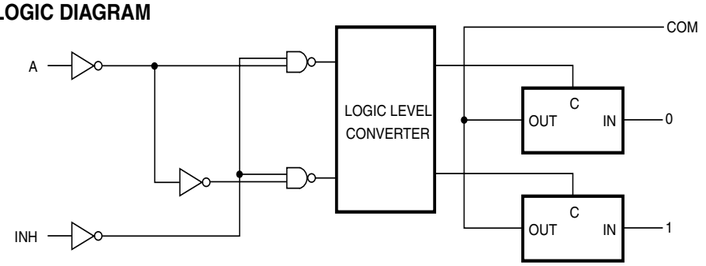


TRUTH TABLE

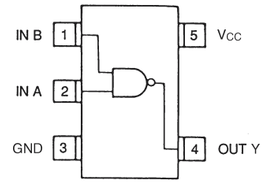
CONTROL INPUT		ON CHANNEL
INH	A	
L	L	ch 0
L	H	ch 1
H	×	NONE

× : Don't care

LOGIC DIAGRAM

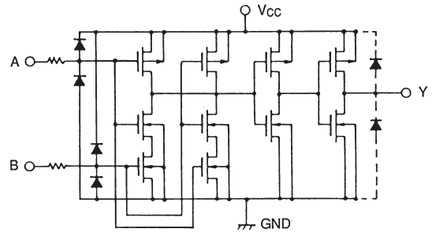


■ TC7SH00FU-X [TOSHIBA]
(2-Input NAND Gate)



TRUE Table

A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L



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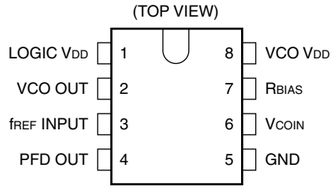
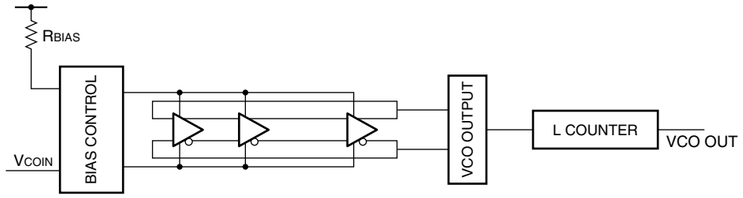
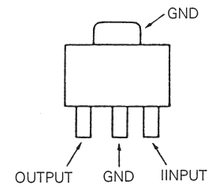
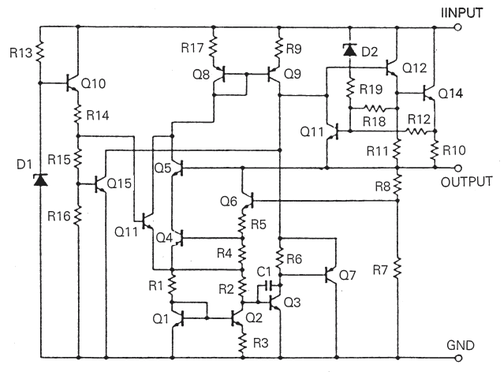
■ TLC2940IPW-X [TEXAS INSTRUMENTS] (75MHz CMOS VCO)



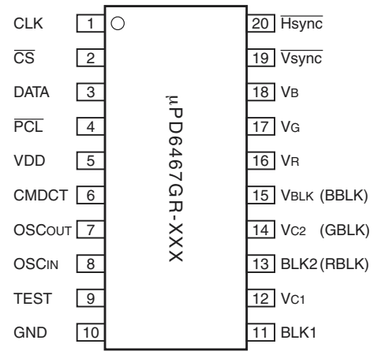


■ UPC78L05T-W [NEC] (3-Terminal Positive Voltage Regulator (+5V))



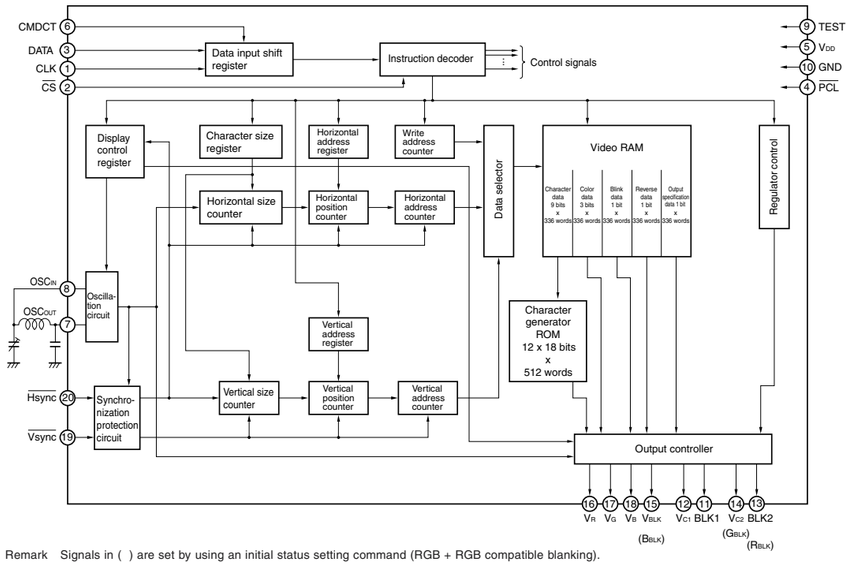


■ UPD6467GR-519-X [NEC] (ON-SCREEN CHARACTER DISPLAY)



(Top View)

BLOCK DIAGRAM



Remark Signals in ( ) are set by using an initial status setting command (RGB + RGB compatible blanking).

4-42

SECTION 5
EXPLODED VIEW AND PARTS LIST

● **SAFETY PRECATION**

Parts identified by the ⚠ symbol are critical for safety.
Replace only with specified parts numbers.

● **NOTE**

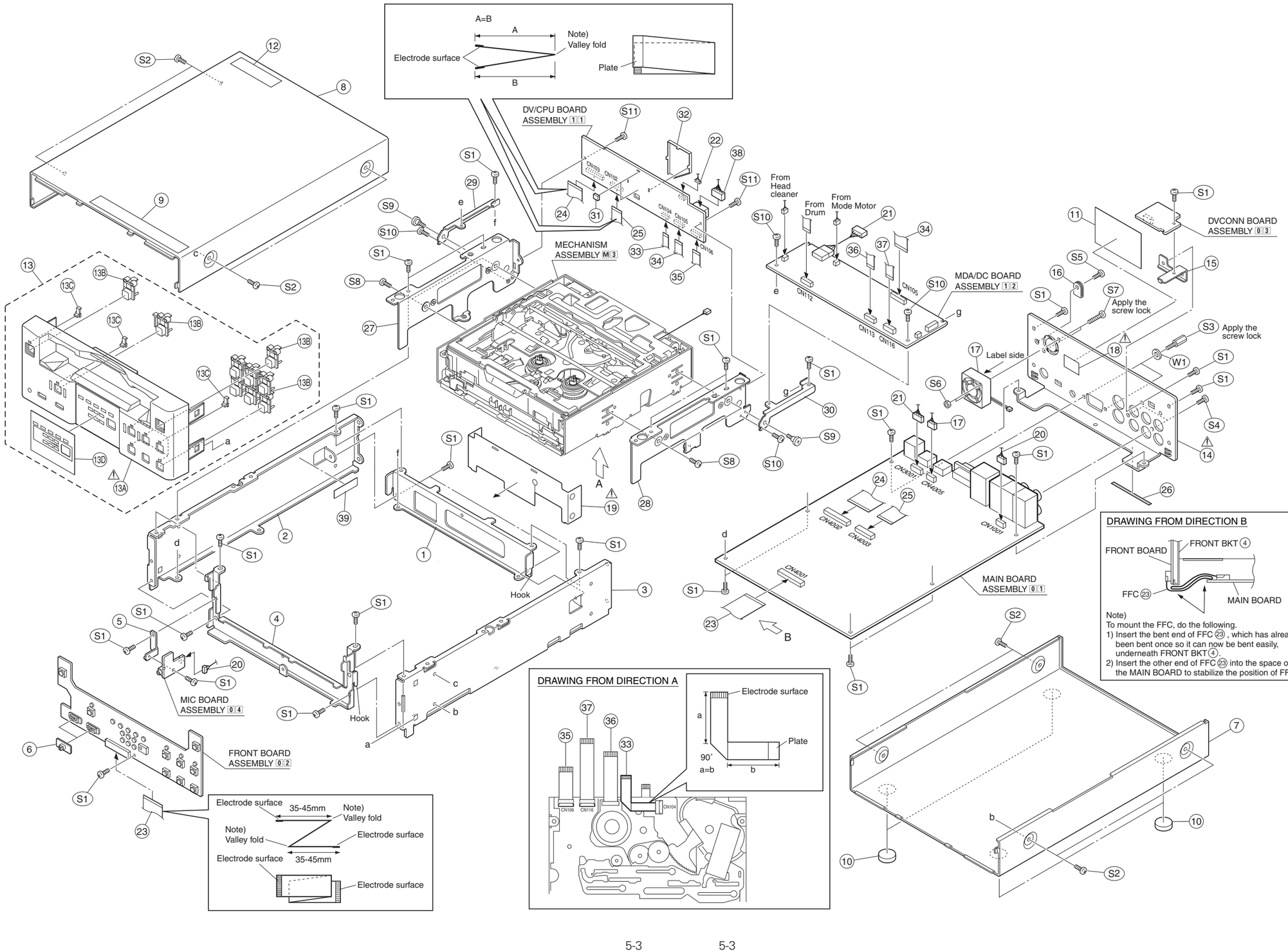
Parts not denoted by parts numbers are not supplied by JVC.

■ CABINET & CHASSIS ASSEMBLY PARTS LIST M2

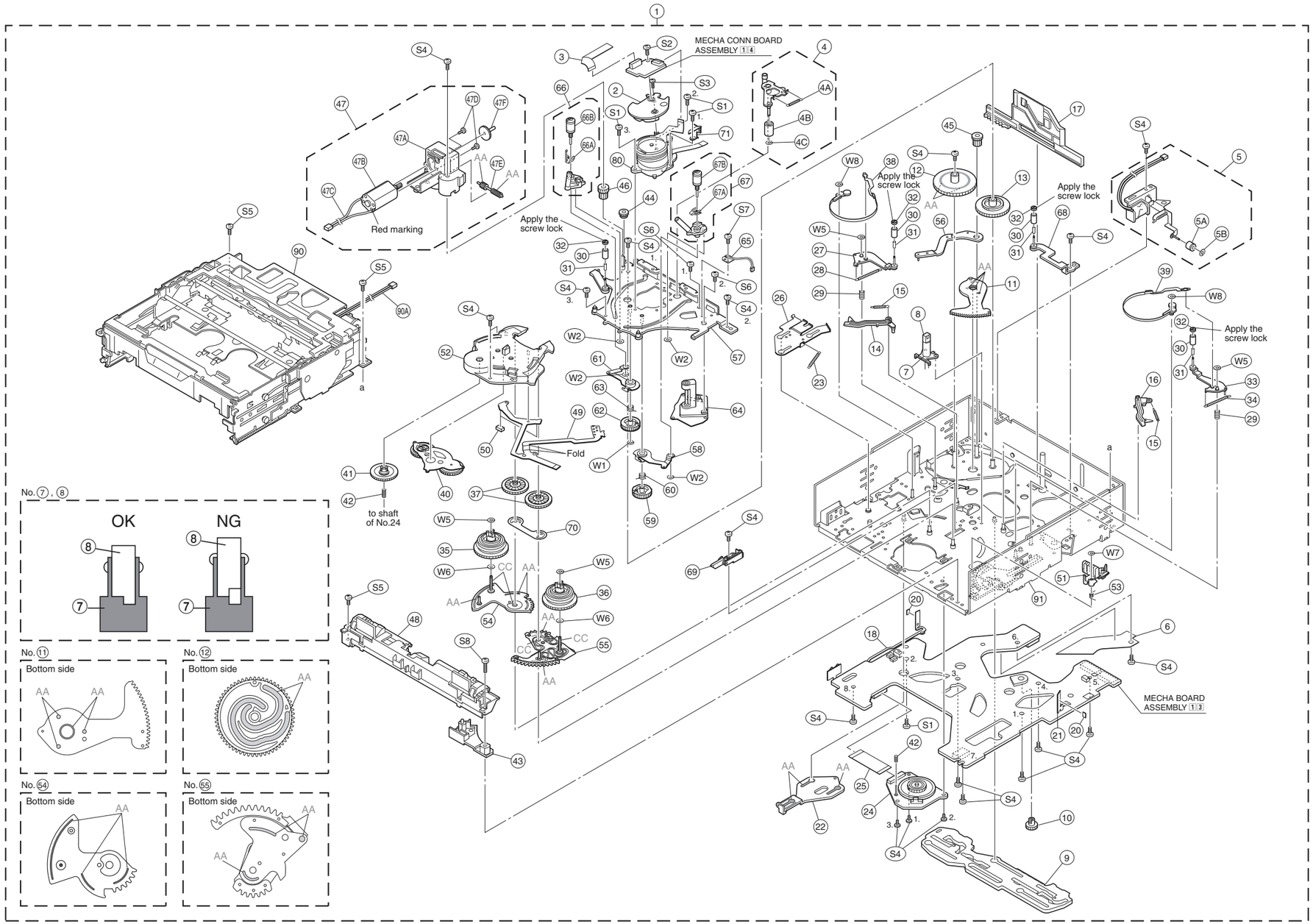
M2MM□□□□

Symbol No.	Part No.	Part Name	Description
1	LL30318-001A-H	CENTER BRACKET	
2	LL20089-001A-H	SIDE FRAME (L)	
3	LL20090-001A-H	SIDE FRAME (R)	
4	LL30319-001A-H	FRONT BRACKET	
5	LL40366-001A-H	BRACKET	
6	LL40363-001A-H	KNOB	x2
7	LL20092-001A-H	BOTTOM COVER	
8	LL20092-002A-H	TOP COVER	
9	LL40390-002A	CAUTION LABEL	
10	SS45331	FOOT	x4
11	–	RATING LABEL	
12	PRD43663-01-03	FCC S.LABEL	U model only
13	PGS30680B	F.PANEL ASS'Y	
⚠ 13A	LL10074-001A-H	FRONT PANEL	
13B	LL20093-001A-H	KNOB(OPE)	
13C	LL30320-001A-H	INDICATOR	x7
13D	LL30321-006A-H	SHEET	
⚠ 14	LL20091-001B-H	REAR COVER	
15	LL40364-001A-H	BRACKET	
16	SS45014-002	WIRE CLAMP	
17	QAR0208-001	FAN MOTOR	
⚠ 18	SC45456-001	CAUTION LABEL	
⚠ 19	LL30323-001A	DUCT	
20	QJN039-033601	WIRE	MIC301-MAIN1001
21	WJJ0377-001A	WIRE	MDA/DC-MAIN3001
22	QJN027-063211	WIRE	DV/CPU-DVCONN
23	QUQ105-4512AA	FFC WIRE	FRONT1-MAIN4001
24	QUQ105-4512AA	FFC WIRE	DV/CPU103-M4002
25	QUQ105-3013AA	FFC WIRE	DV/CPU102-M4003
26	SCV2949-038	GASKET	
27	LL30314-001B-H	BRACKET (L)	
28	LL30315-001B-H	BRACKET (R)	
29	LL30316-001A-H	SUB BRACKET(L)	
30	LL30317-001A-H	SUB BRACKET(R)	
31	PRD30030-36	PAD	x2
32	LL40377-001A-H	SHIELD CASE	
33	QUQ105-1305AA	FFC WIRE	ME104-DV/CPU104
34	QUQ105-2609AA	FFC WIRE	MDA105-DV/C105
35	QUQ105-2004AA	FFC WIRE	ME106-DV/CPU106
36	QUQ105-1804AA	FFC WIRE	MDA113-CAP.M
37	QUQ105-2004AA	FFC WIRE	ME116-MDA116
38	QJJ027-081203	WIRE	DV/C108-MDA108
39	–	LABEL	IEEE1394 ID
S1	QYSDST2606Z	SCREW	M2.6x6
S2	QYSDSTY3008X	SCREW	M3x8
S3	PGZ01821-02	SCREW	RS-422, 9PIN U MODEL
S3	PGZ01821	SCREW	RS-422, 9PIN E MODEL
S4	QYSDSF3008Z	SCREW	M3x8
S5	LL40389-001A	SCREW	W.CLAMP
S6	QYNNS2600N	NUT	
S7	QYSDSP2614M	SCREW	M2.6x14
S8	QYSPSP3003Z	SCREW	M3x3
S9	PRD44099	SCREW	x2
S10	QYSDSP2004Z	SCREW	M2x4
S11	QYSPSPM2003Z	SCREW	M2x3
W1	QYWLS275306N	WASHER	FOR RS-422

5.1 CABINET & CHASSIS ASSEMBLY M 2


A=B
A
B
Note)
Valley fold
Electrode surface
Plate
DV/CPU BOARD ASSEMBLY 1 1
MECHANISM ASSEMBLY M 3
From Head cleaner
From Drum
From Mode Motor
MDA/DC BOARD ASSEMBLY 1 2
DVCONN BOARD ASSEMBLY 0 3
Apply the screw lock
Label side
MAIN BOARD ASSEMBLY 0 1
MIC BOARD ASSEMBLY 0 4
FRONT BOARD ASSEMBLY 0 2
Hook
DRAWING FROM DIRECTION A
DRAWING FROM DIRECTION B
FRONT BOARD
FRONT BKT
FFC
MAIN BOARD
Note)
To mount the FFC, do the following.
1) Insert the bent end of FFC 23 , which has already been bent once so it can now be bent easily, underneath FRONT BKT 4 .
2) Insert the other end of FFC 23 into the space on the MAIN BOARD to stabilize the position of FFC.
35-45mm
90°
a=b

5.2 MECHANISM ASSEMBLY M 3



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	CC

NOTES:
- This section indicates that the grease and oil are to be applied on locations marked with **AA** and **CC**.
  During checking and servicing, check if grease has been applied on the locations marked with **AA** and oil on the locations marked with **CC**.
- Apply also grease in the cam groove of the main cam.

■ MECHANISM ASSEMBLY PARTS LIST M3

M3MM□□□□

Symbol No.	Part No.	Part Name	Description
1	LL30247-001A	MECHANISM ASS'Y	
2	LL20081-001A	TAPE GUARD	
3	WJT0085-001A	FFC	
4	LL40370-001A	P.ARM F.ASS'Y	
4A	LL40357-001A	TEN.SPRING(P.A)	
4B	LL40313-001A	PINCH ROLLER	
4C	LY40382-001A	P.ROLLER CAP	
5	LL40371-001A	H.CLEANER ASS'Y	
5A	LY41249-001A	HEAD CLEANER SA	
5B	QYWDM0802725	SLIT WASHER	
6	LL40341-001A	GUIDE SHEET	
7	LL30257-001A	LED HOLDER	
8	LN59	L.E.D.	
9	LL20071-001A	CTL.PLATE	
10	LL30254-001A	M.SENSOR GEAR	
11	LL30260-001B	ARM GEAR	
12	LL20072-001A	MAIN CAM	
13	LL40241-001A	P.CAM GEAR	
14	LL30258-001A	SUP REEL LOCK	
15	LL40352-001A	TEN.SPRING(R.L)	x2
16	LL30259-001A	TU REEL LOCK	
17	LL30262-001A	PINCH PLATE	
18	NAL0015-001	FPC 2 ASSEMBLY	
20	CPT-230-X	PH.TRANSISTOR	x2
21	NAL0016-001	FPC 3 ASSEMBLY	
22	LL30255-001A	F.LOCK LEVER	
23	LL40351-001A	TEN.SPRING(FLL)	
24	QAR0247-001	REEL MOTOR	
25	WJT0084-001A	FFC	
26	LL30256-001B	SW LEVER	
27	–	SUP TEN.ARM SA.	LL30263-001A **(*1)**
28	LL40259-001B	TEN.SPRING(STA)	
29	LL40362-001A	COMP.SPRING	x2
30	LL40325-001A	GUIDE ROLLER	x4
31	LL40326-001A	COLLAR	x4
32	LL40327-001A	FLANGE	x4
33	–	TU TEN.ARM SA.	LL30265-001B **(*1)**
34	LL40353-001A	TEN.SPRING(TTA)	
35	LL30281-001A	SUP R.DISK ASSY	
36	LL30284-001A	TU R.DISK ASS'Y	
37	LL40261-001A	CONN.GEAR ASS'Y	x2
38	LL40293-001A	SUP T.BAND ASSY	
39	LL40300-001A	TU T.BAND ASS'Y	
40	LL40345-001A	IDLER ARM ASS'Y	
41	LL30272-001A	EMERGENCY GEAR	
42	LL40354-001A	COMP.SPRING(E.G)	
43	LL30303-001A	MIC GUIDE	
44	LL40242-001A	GEAR 1	
45	LL40243-001A	GEAR 2	
46	LL40244-001A	WORM WHEEL 2	
47	LL40245-001A	M.MOTOR ASS'Y	
47A	LL10068-001A	MOTOR BRACKET	
47B	LL40246-001A	MODE MOTOR SA	
47C	WJM0310-001A	WIRE	
47D	QYSPSPL2003Z	SCREW	M2x3

***1 : These parts can not be replaced individually. To replace them, please replace the MECHANISM assembly.**

Symbol No.	Part No.	Part Name	Description
47E	LL40248-001A	WORM ASSEMBLY	
47F	LL40252-001A	E.GEAR(MODE)	
48	LL20087-001B	CA.GUIDE ASS'Y	
49	NAL0014-001A	FPC 1 ASSEMBLY	
50	CNB1001001V1-X	I.C.(PH SENSOR)	x2
51	QNZ0586-001	M.I.C.CONNECTOR	
52	LL10067-001B	IDLE COVER	
53	LL40356-001A	TORSION SPRING	
54	LL40316-001A	S.R.PLATE ASS'Y	
55	LL40319-001A	T.R.PLATE ASS'Y	
56	LL40368-001A	CTL.ARM ASS'Y	
57	–	SUB DECK ASS'Y	LL20076-001A **(*1)**
58	LL40273-001A	TU L.ARM ASS'Y	
59	LL30273-001A	TU L.GEAR	
60	LL40277-001A	T.SPRING(T.L.G)	
61	LL40278-001A	SUP L.ARM ASS'Y	
62	LL30274-001A	SUP L.GEAR	
63	LL40282-001A	T.SPRING(S.L.G)	
64	QAR0248-001	CAPSTAN MOTOR	
65	QSD0006-001	DEW SENSOR	
66	LL30275-001A	SUP P.BASE ASSY	
66A	LL30277-001A	SUP P.B.PLATE	
66B	LL40284-001A	G.ROLLER ASS'Y	
67	LL30278-001A	TU P.BASE ASS'Y	
67A	LL30280-001A	TU P.B.PLATE	
67B	LL40284-001A	G.ROLLER ASS'Y	
68	–	E.G.R.ARM ASS'Y	LL40292-001A **(*1)**
69	LL40324-001A	M.C.B.PIN ASS'Y	
70	LL30306-001A	LEAF PLATE	
71	LL30339-001A	TU TAPE GUARD	
80	YDV2103A	DRUM ASSEMBLY	
90	LL20064-001A	C.HOUSING ASS'Y	
90A	WJM0311-001A	WIRE	
91	–	MAIN DECK ASS'Y	LL20063-001B **(*1)**
S1	QYSPSPU1735N	SCREW	M1.7x3.5
S2	QYSDSG2004N	SCREW	M2x4
S3	QYSPSPU1430M	SCREW	M1.4x3.0
S4	QYSPSPU1725M	SCREW	M1.7x2.5
S5	QYSDSP2005Z	SCREW	M2x5
S6	QYSDSP2003Z	SCREW	M2x3
S7	YQ43893	SCREW	M1.4x2
S8	QYSDSP2012Z	SCREW	M2x12
W1	QYWDL163525	SLIT WASHER	
W2	QYWDM254725	SLIT WASHER	
W5	QYWDM082525	SLIT WASHER	
W6	QYWFM123025	WASHER	
W7	QYWDM082025	SLIT WASHER	
W8	QYWDM123025	SLIT WASHER	

***1 : These parts can not be replaced individually. To replace them, please replace the MECHANISM assembly.**

SECTION 6
ELECTRICAL PARTS LIST

SAFETY PRECAUTION:

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified parts numbers.
For maximum reliability and performance, all other replacement parts should be identical to those specified.

NOTE:

- Parts not denoted by parts numbers are not supplied by JVC.
- Abbreviations in this list are as follows:

RESISTORS

In the "Description" column:

All resistance values are in ohms ( ).
k expresses kilo-ohm (1 000 ohms, k).
M expresses mega-ohm (10^6 ohms, M).

In the "Parts Name"column:

CAR.RESISTOR	: Carbon Resistor
C.M.F.RESISTOR	: Constant Metalized Film Resistor
COMP.RESISTOR	: Composition Resistor
FUSI.RESISTOR	: Fusible Resistor
M.F.RESISTOR	: Metal Film Resistor
M.G.RESISTOR	: Metal Graze Resistor
M.P.RESISTOR	: Metal Plate Resistor
O.M.F.RESISTOR	: Oxide Metalized Film Resistor
TRIM.RESISTOR	: Trimerer Resistor
U.F.RESISTOR	: Non-inflammable Resistor
VAL.RESISTOR	: Valiable Resistor
W.W.RESISTOR	: Wire Wound Resistor

CAPACITORS

In the "Description" column:

All capacitance values are in microfarad (μF) unless otherwise indicated.
p expresses picofarad (10^{-12} farad,pF).

In the "Parts Name" column:

CER.CAPACITOR	: Ceramic Capacitor
E.CAPACITOR	: Electrolytic Capacitor
FILM CAPACITOR	: Film Capacitor
M.F.CAPACITOR	: Metalized Film Capacitor
MICA CAPACITOR	: Mica Capacitor
MPP CAPACITOR	: Metalized PolyPropylene Capacitor
MPPS CAPACITOR	: Metalized PolyPhenylene Sulfied film Capacitor
M.M.CAPACITOR	: Metalized Mylar Capacitor
MYLAR CAPACITOR	: Mylar Capacitor
N.P.CAPACITOR	: Non-Poler electrolytic Capacitor
P.P.CAPACITOR	: PolyPropylene Capacitor
PPS CAPACITOR	: PolyPhenylene Sulfied film Capacitor
P.S.CAPACITOR	: PolyStyrene Capacitor
TAN.CAPACITOR	: Tantal Capacitor
TRIM.CAPACITOR	: Trimer Capacitor
VAL.CAPACITOR	: Valiable Capacitor

6.1 MAIN BOARD ASSEMBLY PARTS LIST 0 1

LK1173A0C 0 1

Symbol No.	Part No.	Part Name	Description
IC1	TC4W53FU-X	I.C.(M)	TOSHIBA
IC2	MM1565AF-X	I.C.(M)	MITSUMI
IC3	NJM79L05UA-X	I.C.(M)	JRC
IC4	CXD2064Q	I.C.(M)	SONY
IC5	M51271FP-X	I.C.(M)	MITSUBISHI
IC6	SN74AHCT04PW-X	I.C.(M)	TEXAS
IC7	MM1565AF-X	I.C.(M)	MITSUMI
IC8	NJM79L05UA-X	I.C.(M)	JRC
IC14	UPC78L05T-W	I.C.(M)	NEC
IC201	M62366GP-X	I.C.(M)	MITSUBISHI
IC202	AN3916-/LF/	I.C.(M)	MATSUSHITA
IC204	UPD6467GR-519-X	I.C.(M)	NEC
IC206	TC4W53FU-X	I.C.(M)	TOSHIBA
IC207	MM1571JN-X	I.C.(M)	MITSUMI
IC208	JCP8029	I.C.(M)	JVC
IC209	AD817AR-X	I.C.(M)	ANALOG DEVICES
IC211	AD817AR-X	I.C.(M)	ANALOG DEVICES
IC212	AD817AR-X	I.C.(M)	ANALOG DEVICES
IC213	SN74AHC574PW-X	I.C.(M)	TEXAS
IC214	SN74AHC574PW-X	I.C.(M)	TEXAS
IC215	SN74AHC1GU04K-X	I.C.(M)	TEXAS
IC217	SN74AHC245DGV-X	I.C.(M)	TEXAS
IC218	AD817AR-X	I.C.(M)	ANALOG DEVICES
IC601	TC74VHC221AFT-X	I.C.(M)	TOSHIBA
IC602	TC7SET08F-X	I.C.(M)	TOSHIBA
IC603	TC7W53FU-X	I.C.(M)	TOSHIBA
IC604	TC7W53FU-X	I.C.(M)	TOSHIBA
IC1001	BA3314F-X	I.C.(M)	ROHM
IC1002	M5218AFP-X	I.C.(M)	MITSUBISHI
IC1003	M5218AFP-X	I.C.(M)	MITSUBISHI
IC1004	M5218AFP-X	I.C.(M)	MITSUBISHI
IC1005	AK4552VT-X	I.C.(M)	ASAHI KASEI
IC1006	AK4363VF-X	I.C.(M)	ASAHI KASEI
IC1007	M5218AFP-X	I.C.(M)	MITSUBISHI
IC1008	M5218AFP-X	I.C.(M)	MITSUBISHI
IC1009	BA6138F-X	I.C.(M)	ROHM
IC1011	SN74HC161APW-X	I.C.(M)	TEXAS
IC1012	SN74HC161APW-X	I.C.(M)	TEXAS
IC1013	SN74AHC00PW-X	I.C.(M)	TEXAS
IC1014	SN74AHC04PW-X	I.C.(M)	TEXAS
IC1015	SN74AHC74PW-X	I.C.(M)	TEXAS
IC1016	SN74AHC1G00K-X	I.C.(M)	TEXAS
IC1017	TC4W53FU-X	I.C.(M)	TOSHIBA
IC2001	HD64F2238RFA13	I.C.(M)	HITACHI
IC2002	RS5C314-X	I.C.(M)	RICOH
IC2003	M95320-WMN6-X	I.C.(M)	MITSUBISHI
IC2004	RN5VD26AA-X	I.C.(M)	RICOH
IC2005	NJU7222U30-X	I.C.(M)	JRC
IC2006	SN74LV165ADGV-X	I.C.(M)	TEXAS
IC2007	SN74LV165ADGV-X	I.C.(M)	TEXAS
IC2008	M66311FP-X	I.C.(M)	MITSUBISHI
IC2009	BU4094BCFV-X	I.C.(M)	ROHM
IC2010	BU4094BCFV-X	I.C.(M)	ROHM
IC2011	SN74AHCT125PW-X	I.C.(M)	TEXAS
IC2012	SN74LV126ADGV-X	I.C.(M)	TEXAS
IC2013	DS8922M-X	I.C.(M)	NATIONAL SEMICO
IC2015	SN74AHC1G32K-X	I.C.(M)	TEXAS
IC2016	SN74AHC1G32K-X	I.C.(M)	TEXAS
IC2017	TC7W04F-X	I.C.(M)	TOSHIBA
IC2051	CD4053BPW-X	I.C.(M)	RCA
IC3001	NJM78M05DL1A-X	I.C.(M)	JRC
IC3002	BA9743AFV-X	I.C.(M)	ROHM
IC3003	BA9743AFV-X	I.C.(M)	ROHM
Q1	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q2	2SC4617/RS/-X	TRANSISTOR	ROHM
Q3	2SC4617/RS/-X	TRANSISTOR	ROHM
Q4	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q5	2SC4617/RS/-X	TRANSISTOR	ROHM
Q6	2SC4617/RS/-X	TRANSISTOR	ROHM
Q7	2SC4617/RS/-X	TRANSISTOR	ROHM
Q8	2SC4617/RS/-X	TRANSISTOR	ROHM
Q9	2SC4617/RS/-X	TRANSISTOR	ROHM
Q10	2SC4617/RS/-X	TRANSISTOR	ROHM
Q11	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q12	2SC4617/RS/-X	TRANSISTOR	ROHM
Q13	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q14	2SC4617/RS/-X	TRANSISTOR	ROHM
Q15	2SC4617/RS/-X	TRANSISTOR	ROHM
Q16	2SC4617/RS/-X	TRANSISTOR	ROHM
Q17	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q18	2SC4617/RS/-X	TRANSISTOR	ROHM
Q19	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q20	2SC4617/RS/-X	TRANSISTOR	ROHM
Q21	2SC4617/RS/-X	TRANSISTOR	ROHM
Q22	DTC124EUA-X	TRANSISTOR	ROHM
Q23	2SC4617/RS/-X	TRANSISTOR	ROHM
Q24	2SC4617/RS/-X	TRANSISTOR	ROHM
Q25	2SC4617/RS/-X	TRANSISTOR	ROHM
Q26	2SC4617/RS/-X	TRANSISTOR	ROHM
Q201	2SC4617/RS/-X	TRANSISTOR	ROHM
Q207	2SC4617/RS/-X	TRANSISTOR	ROHM
Q208	2SC4617/RS/-X	TRANSISTOR	ROHM
Q209	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q210	2SC4617/RS/-X	TRANSISTOR	ROHM
Q211	2SC4617/RS/-X	TRANSISTOR	ROHM
Q212	2SC4617/RS/-X	TRANSISTOR	ROHM
Q213	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q214	2SC4617/RS/-X	TRANSISTOR	ROHM
Q215	2SC4617/RS/-X	TRANSISTOR	ROHM
Q216	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q217	2SC4617/RS/-X	TRANSISTOR	ROHM
Q218	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q219	2SC4617/RS/-X	TRANSISTOR	ROHM
Q222	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q223	2SC4617/RS/-X	TRANSISTOR	ROHM
Q225	2SC4617/RS/-X	TRANSISTOR	ROHM
Q226	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q229	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q230	2SC4617/RS/-X	TRANSISTOR	ROHM
Q601	2SC4617/RS/-X	TRANSISTOR	ROHM
Q602	2SC4617/RS/-X	TRANSISTOR	ROHM
Q603	2SK665-X	FET	MATSUSHITA
Q604	2SK665-X	FET	MATSUSHITA
Q605	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q606	2SA1774/QRS/-X	TRANSISTOR	ROHM
Q1001	DTC124EUA-X	TRANSISTOR	ROHM
Q1002	DTC124EUA-X	TRANSISTOR	ROHM
Q1003	DTA124EUA-X	TRANSISTOR	ROHM
Q1004	DTC323TU-X	TRANSISTOR	ROHM
Q1005	DTC323TU-X	TRANSISTOR	ROHM
Q1006	DTC124EUA-X	TRANSISTOR	ROHM
Q1007	DTA124EUA-X	TRANSISTOR	ROHM
Q1008	DTC323TU-X	TRANSISTOR	ROHM
Q1009	DTC323TU-X	TRANSISTOR	ROHM
Q1011	DTC124EUA-X	TRANSISTOR	ROHM
Q1012	DTA124EUA-X	TRANSISTOR	ROHM
Q1013	DTC323TU-X	TRANSISTOR	ROHM
Q1014	DTC323TU-X	TRANSISTOR	ROHM
Q2001	DTC144EKA-X	TRANSISTOR	ROHM
Q2002	DTA144EKA-X	TRANSISTOR	ROHM
Q2003	DTC144EKA-X	TRANSISTOR	ROHM
Q2004	DTC144EUA-X	TRANSISTOR	ROHM
Q2006	DTC144EKA-X	TRANSISTOR	ROHM
Q3001	DTC114EUA-X	TRANSISTOR	ROHM
Q3002	2SD1628/FG/-X	TRANSISTOR	SANYO
Q3003	DTA114EUA-X	TRANSISTOR	ROHM
Q3004	DTA114EUA-X	TRANSISTOR	ROHM
Q3005	DTC114EUA-X	TRANSISTOR	ROHM
Q3006	2SD1628/FG/-X	TRANSISTOR	SANYO
Q3007	2SJ484WY-X	FET	HITACHI
Q3008	2SJ484WY-X	FET	HITACHI
Q3009	HAT1021R-X	TRANSISTOR	HITACHI
Q3010	HAT1021R-X	TRANSISTOR	HITACHI
Q3011	2SC2411K/QR/-X	TRANSISTOR	ROHM

Symbol No.	Part No.	Part Name	Description	
Q3012	2SA1036K/PQR/-X	TRANSISTOR	ROHM	
Q3013	2SC2411K/QR/-X	TRANSISTOR	ROHM	
Q3014	2SA1036K/PQR/-X	TRANSISTOR	ROHM	
Q3015	2SC2411K/QR/-X	TRANSISTOR	ROHM	
Q3016	2SA1036K/PQR/-X	TRANSISTOR	ROHM	
Q3017	2SC2411K/QR/-X	TRANSISTOR	ROHM	
Q3018	2SA1036K/PQR/-X	TRANSISTOR	ROHM	
D1	DAN202U-X	DIODE	ROHM	
D2002	MA741WK-X	DIODE	MATSUSHITA	
D2003	MA741WK-X	DIODE	MATSUSHITA	
D3001	SB140L-6395	DIODE	SANYO	
D3006	SFPB-72-W	SB DIODE	SANKEN	
D3007	SFPB-72-W	SB DIODE	SANKEN	
D3008	SFPB-72-W	SB DIODE	SANKEN	
D3009	SFPB-72-W	SB DIODE	SANKEN	
D4001	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4002	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4003	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4004	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4005	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4006	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4007	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4008	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4009	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4010	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4011	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4012	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4013	MA3160/M/-X	DIODE	MATSUSHITA	
D4014	MA3160/M/-X	DIODE	MATSUSHITA	
D4015	MA3160/M/-X	DIODE	MATSUSHITA	
D4016	MA3160/M/-X	DIODE	MATSUSHITA	
D4017	MA3160/M/-X	DIODE	MATSUSHITA	
D4018	MA3160/M/-X	DIODE	MATSUSHITA	
D4019	MA3160/M/-X	DIODE	MATSUSHITA	
D4020	MA3160/M/-X	DIODE	MATSUSHITA	
D4021	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4022	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4023	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4024	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4025	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4026	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4027	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4028	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4029	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
D4031	MA3091/M/-X	ZENER DIODE	MATSUSHITA	
R1	NRSA63D-331X	M.G.RESISTOR	330	1/16W
R2	NRSA63D-101X	M.G.RESISTOR	100	1/16W
R3	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R4	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R5	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R6	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R7	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R8	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R9	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R10	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R11	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R12	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R13	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R14	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R15	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R16	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R18	NRSA63D-471X	M.G.RESISTOR	470	1/16W
R19	NRSA63D-272X	M.G.RESISTOR	2.7k	1/16W
R20	NRSA63D-471X	M.G.RESISTOR	470	1/16W
R21	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R22	NRSA63D-331X	M.G.RESISTOR	330	1/16W
R23	NRSA63D-101X	M.G.RESISTOR	100	1/16W
R24	NRSA63D-821X	M.G.RESISTOR	820	1/16W
R25	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R26	NRSA63D-222X	M.G.RESISTOR	2.2k	1/16W
R27	NRSA63J-101X	M.G.RESISTOR	100	1/16W

Symbol No.	Part No.	Part Name	Description	
R28	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R29	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R30	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R31	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R32	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R33	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R34	NRSA63D-332X	M.G.RESISTOR	3.3k	1/16W
R35	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R36	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R37	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R38	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R40	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R41	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R42	NRSA63J-392X	M.G.RESISTOR	3.9k	1/16W
R43	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R44	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R45	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R46	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R47	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R48	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R49	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R50	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R51	NRSA63J-561X	M.G.RESISTOR	560	1/16W
R52	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R53	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R54	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R56	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R57	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R58	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R60	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R61	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R62	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R63	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R64	NRSA63D-681X	M.G.RESISTOR	680	1/16W
R65	NRSA63D-331X	M.G.RESISTOR	330	1/16W
R66	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R67	NRSA63D-101X	M.G.RESISTOR	100	1/16W
R68	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R69	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R70	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R71	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R72	NRSA63J-391X	M.G.RESISTOR	390	1/16W
R73	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R74	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R75	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R76	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R77	NRSA63D-471X	M.G.RESISTOR	470	1/16W
R78	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R79	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R80	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R81	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R82	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R83	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R84	NRSA63J-125X	M.G.RESISTOR	1.2M	1/16W
R85	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R86	NRSA63J-183X	M.G.RESISTOR	18k	1/16W
R87	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R88	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R89	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R90	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R91	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R92	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R93	NRSA63J-510X	M.G.RESISTOR	51	1/16W
R94	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R95	NRSA63J-510X	M.G.RESISTOR	51	1/16W
R96	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R97	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R98	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R99	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R100	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R101	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R102	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R103	NRSA63J-333X	M.G.RESISTOR	33k	1/16W

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Symbol No.	Part No.	Part Name	Description	
R104	NRSA63J-391X	M.G.RESISTOR	390	1/16W
R105	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R106	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R107	NRSA63J-331X	M.G.RESISTOR	330	1/16W
R108	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R109	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R110	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R111	NRSA63D-222X	M.G.RESISTOR	2.2k	1/16W
R112	NRSA63D-152X	M.G.RESISTOR	1.5k	1/16W
R113	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R114	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R180	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R203	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R204	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R205	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R206	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R207	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R208	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R209	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R210	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R211	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R212	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R213	NRSA63J-684X	M.G.RESISTOR	680k	1/16W
R214	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R215	NRSA63J-123X	M.G.RESISTOR	12k	1/16W
R233	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R234	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R235	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R236	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R239	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R240	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R241	NRSA63J-181X	M.G.RESISTOR	180	1/16W
R242	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R243	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R244	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R246	NRSA63J-751X	M.G.RESISTOR	750	1/16W
R247	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R248	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R249	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R250	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R251	NRSA63D-821X	M.G.RESISTOR	820	1/16W
R252	NRSA63D-331X	M.G.RESISTOR	330	1/16W
R253	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R254	NRSA63D-101X	M.G.RESISTOR	100	1/16W
R255	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R256	NRSA63D-471X	M.G.RESISTOR	470	1/16W
R257	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R258	NRSA63J-122X	M.G.RESISTOR	1.2k	1/16W
R259	NRSA63J-684X	M.G.RESISTOR	680k	1/16W
R260	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R263	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R264	NRSA63J-683X	M.G.RESISTOR	68k	1/16W
R265	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R266	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R267	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R268	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R269	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R270	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R271	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R272	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R273	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R274	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R275	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R276	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R277	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R279	NRSA63J-751X	M.G.RESISTOR	750	1/16W
R280	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R281	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R282	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R283	NRSA63D-561X	M.G.RESISTOR	560	1/16W
R284	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R285	NRSA63D-331X	M.G.RESISTOR	330	1/16W

Symbol No.	Part No.	Part Name	Description	
R286	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R287	NRSA63D-101X	M.G.RESISTOR	100	1/16W
R288	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R289	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R290	NRSA63D-471X	M.G.RESISTOR	470	1/16W
R291	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R292	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R293	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R294	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R295	NRSA63D-152X	M.G.RESISTOR	1.5k	1/16W
R296	NRSA63D-561X	M.G.RESISTOR	560	1/16W
R297	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R298	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R299	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R300	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R302	NRSA63J-751X	M.G.RESISTOR	750	1/16W
R303	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R304	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R305	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R306	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R307	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R308	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R310	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R311	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R312	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R313	NRSA63D-151X	M.G.RESISTOR	150	1/16W
R315	NRSA63D-302X	M.G.RESISTOR	3k	1/16W
R316	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R317	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R318	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R323	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R324	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R326	NRSA63J-751X	M.G.RESISTOR	750	1/16W
R327	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R328	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R329	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R330	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R331	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R332	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R333	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R334	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R335	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R336	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R337	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R338	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R339	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R340	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R341	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R342	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R343	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R344	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R345	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R346	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R347	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R348	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R349	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R350	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R351	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R352	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R353	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R354	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R355	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R356	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R357	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R359	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R360	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R362	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R364	PGZ01994-601Z	FERRITE BEADS		
R365	NRSA63J-220X	M.G.RESISTOR	22	1/16W
R371	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R372	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R373	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R374	NRSA63J-473X	M.G.RESISTOR	47k	1/16W

Symbol No.	Part No.	Part Name	Description	
R375	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R376	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R377	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R378	NRSA63J-220X	M.G.RESISTOR	22	1/16W
R379	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R380	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R381	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R382	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R383	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R384	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R385	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R386	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R387	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R388	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R389	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R390	PGZ01994-601Z	FERRITE BEADS		
R391	NRSA63J-220X	M.G.RESISTOR	22	1/16W
R392	PGZ01994-601Z	FERRITE BEADS		
R393	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R394	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R395	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R396	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R397	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R402	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R403	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R404	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R405	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R406	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R408	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R409	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R412	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R413	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R414	NRSA63D-302X	M.G.RESISTOR	3k	1/16W
R419	NRSA63J-220X	M.G.RESISTOR	22	1/16W
R421	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R601	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R602	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R603	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R604	NRSA63J-821X	M.G.RESISTOR	820	1/16W
R605	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R606	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R607	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R608	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R609	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R610	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R611	NRSA63D-332X	M.G.RESISTOR	3.3k	1/16W
R612	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R613	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R614	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R615	NRSA63D-392X	M.G.RESISTOR	3.9k	1/16W
R616	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R617	NRSA63D-102X	M.G.RESISTOR	1k	1/16W
R618	NRSA63D-821X	M.G.RESISTOR	820	1/16W
R619	NRSA63D-681X	M.G.RESISTOR	680	1/16W
R620	NRSA63D-201X	M.G.RESISTOR	200	1/16W
R621	NRSA63D-162X	M.G.RESISTOR	1.6k	1/16W
R625	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1003	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1004	NRSA63J-271X	M.G.RESISTOR	270	1/16W
R1005	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1006	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1007	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R1009	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1010	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1011	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R1012	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1013	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1014	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R1016	NRSA63D-822X	M.G.RESISTOR	8.2k	1/16W
R1018	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1019	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1020	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R1021	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W

Symbol No.	Part No.	Part Name	Description	
R1022	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1023	NRSA63D-822X	M.G.RESISTOR	8.2k	1/16W
R1025	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1026	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1027	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1028	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R1029	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R1030	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R1031	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R1032	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R1033	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R1034	PGZ01994-601Z	FERRITE BEADS	-.60k	1W
R1035	NRSA63J-512X	M.G.RESISTOR	5.1k	1/16W
R1036	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R1037	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R1038	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R1039	NRSA63D-822X	M.G.RESISTOR	8.2k	1/16W
R1040	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R1041	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R1042	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R1043	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R1044	NRSA63J-822X	M.G.RESISTOR	8.2k	1/16W
R1045	NRSA63D-822X	M.G.RESISTOR	8.2k	1/16W
R1046	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R1047	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R1048	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R1049	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R1050	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R1051	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1052	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R1053	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R1054	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R1055	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R1056	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R1057	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R1058	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R1059	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R1060	NRSA63D-681X	M.G.RESISTOR	680	1/16W
R1061	NRSA63D-681X	M.G.RESISTOR	680	1/16W
R1062	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R1063	NRSA63J-682X	M.G.RESISTOR	6.8k	1/16W
R1064	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R1065	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R1071	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R1072	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R1073	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R1074	NRSA63D-332X	M.G.RESISTOR	3.3k	1/16W
R1075	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R1076	NRSA63D-332X	M.G.RESISTOR	3.3k	1/16W
R1077	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R1078	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R1079	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R1080	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R2001	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2002	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2003	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2004	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2005	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2006	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2007	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2008	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2009	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2010	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2011	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2012	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2015	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2016	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2017	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2018	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2019	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2021	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2022	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2023	NRSA63J-103X	M.G.RESISTOR	10k	1/16W

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Symbol No.	Part No.	Part Name	Description	
R2024	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R2025	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2026	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2031	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R2032	NRSA63J-221X	M.G.RESISTOR	220	1/16W
R2035	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2036	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2037	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R2038	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R2039	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2040	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2041	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2042	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2043	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2044	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2052	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2053	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2054	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2056	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2057	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2059	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2061	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2062	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2063	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2064	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2065	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2066	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2067	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2068	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R2070	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2071	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2072	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R2081	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2082	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2083	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R2084	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R2093	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R2094	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R2095	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2102	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2105	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2106	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R2107	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2108	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2109	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2110	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2112	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2113	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2114	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2115	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2116	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2117	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2118	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2119	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2120	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2121	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2122	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2141	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2142	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2143	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2144	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2145	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2146	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2147	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2148	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2149	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2150	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2151	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2152	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2153	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2154	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R2203	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2204	NRSA63J-223X	M.G.RESISTOR	22k	1/16W

Symbol No.	Part No.	Part Name	Description	
R2205	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2206	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R2501	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R2502	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R3001	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R3002	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R3003	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R3004	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R3005	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R3006	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R3007	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R3008	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R3009	NRSA63D-123X	M.G.RESISTOR	12k	1/16W
R3010	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R3011	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R3012	NRSA63D-273X	M.G.RESISTOR	27k	1/16W
R3013	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3014	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3015	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3016	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3017	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R3018	NRSA63D-123X	M.G.RESISTOR	12k	1/16W
R3019	NRSA63D-273X	M.G.RESISTOR	27k	1/16W
R3020	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R3021	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R3022	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R3024	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R3025	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R3026	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R3027	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R3028	NRSA63D-392X	M.G.RESISTOR	3.9k	1/16W
R3030	NRSA63D-392X	M.G.RESISTOR	3.9k	1/16W
R3031	NRSA63D-562X	M.G.RESISTOR	5.6k	1/16W
R3032	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R3033	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R3034	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R3035	NRSA63D-273X	M.G.RESISTOR	27k	1/16W
R3036	NRSA63D-332X	M.G.RESISTOR	3.3k	1/16W
R3037	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3038	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3039	NRSA63D-153X	M.G.RESISTOR	15k	1/16W
R3040	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3042	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3043	NRSA63D-273X	M.G.RESISTOR	27k	1/16W
R3044	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R3045	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R3046	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R3048	NRSA63D-332X	M.G.RESISTOR	3.3k	1/16W
R3049	NRSA63D-152X	M.G.RESISTOR	1.5k	1/16W
R3050	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R3051	NRSA63J-471X	M.G.RESISTOR	470	1/16W
R3052	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3054	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R3056	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R3059	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R3069	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R3070	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R3071	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R3072	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R3076	NRSA63J-683X	M.G.RESISTOR	68k	1/16W
R4001	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R4002	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R4003	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R4004	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R4011	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R4012	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R4013	NRSA63J-560X	M.G.RESISTOR	56	1/16W
R4014	NRSA63J-560X	M.G.RESISTOR	56	1/16W
C1	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C2	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3	NEH90JM-107X	E.CAPACITOR	100	6.3V

Symbol No.	Part No.	Part Name	Description	
C4	NEH90JM-107X	E.CAPACITOR	100	6.3V
C5	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C6	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C7	NEH90JM-107X	E.CAPACITOR	100	6.3V
C8	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C9	NEH90JM-107X	E.CAPACITOR	100	6.3V
C10	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C12	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C13	NDC31HJ-3R0X	CER.CAPACITOR	3p	50V
C14	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C15	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C16	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C17	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C18	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C19	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C20	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C21	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C22	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C23	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C24	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C25	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C26	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C27	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C28	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C29	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C30	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C31	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C32	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C33	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C34	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C35	NEH91CM-106X	E.CAPACITOR	10	16V
C36	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C37	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C38	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C39	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C40	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C41	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C42	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C43	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C44	NBE21CM-105X	TAN.CAPACITOR	1	16V
C45	NBE21CM-475X	TAN.CAPACITOR	4.7	16V
C46	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C47	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C48	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C49	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C50	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C51	NEH90JM-107X	E.CAPACITOR	100	6.3V
C52	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C53	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C54	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C55	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C56	NBE21CM-105X	TAN.CAPACITOR	1	16V
C57	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C58	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C59	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C60	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C61	NEH90JM-476X	E.CAPACITOR	47	6.3V
C62	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C63	NBE51AM-476X	TAN.CAPACITOR	47	10V
C64	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C65	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C66	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C67	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C68	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C69	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C70	NEH90JM-476X	E.CAPACITOR	47	6.3V
C71	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C72	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C73	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C74	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C75	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C76	NEH90JM-107X	E.CAPACITOR	100	6.3V
C77	NCB31HK-103X	CER.CAPACITOR	0.01	50V

Symbol No.	Part No.	Part Name	Description	
C78	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C79	NEH90JM-107X	E.CAPACITOR	100	6.3V
C80	NDC31HJ-271X	CER.CAPACITOR	270p	50V
C81	NDC31HJ-121X	CER.CAPACITOR	120p	50V
C82	NEH91CM-106X	E.CAPACITOR	10	16V
C83	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C84	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C85	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C86	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C88	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C89	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C90	NEH90JM-476X	E.CAPACITOR	47	6.3V
C91	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C92	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C93	NEH90JM-476X	E.CAPACITOR	47	6.3V
C94	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C95	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C96	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C97	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C98	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C99	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C100	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C101	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C102	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C103	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C104	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C105	NEH90JM-476X	E.CAPACITOR	47	6.3V
C106	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C114	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C115	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C117	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C118	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C119	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C120	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C131	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C132	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C133	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C136	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C138	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C152	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C156	NDC31HJ-220X	CER.CAPACITOR	22p	50V
C170	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C171	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C203	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C204	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C205	NEH90JM-476X	E.CAPACITOR	47	6.3V
C206	NCB11AK-475X	CER.CAPACITOR	4.7	10V
C207	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C208	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C209	NEH90JM-107X	E.CAPACITOR	100	6.3V
C210	NEH90JM-476X	E.CAPACITOR	47	6.3V
C211	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C212	NEH90JM-476X	E.CAPACITOR	47	6.3V
C213	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C214	NEH91EM-475X	E.CAPACITOR	4.7	25V
C215	NEH91EM-475X	E.CAPACITOR	4.7	25V
C216	NEH90JM-107X	E.CAPACITOR	100	6.3V
C217	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C218	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C219	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C220	NEH91EM-475X	E.CAPACITOR	4.7	25V
C221	NEH91EM-475X	E.CAPACITOR	4.7	25V
C222	NBE21CM-475X	TAN.CAPACITOR	4.7	16V
C233	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C234	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C235	NDC31HJ-101X	CER.CAPACITOR	100p	50V
C236	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C237	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C238	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C239	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C240	NDC31HJ-390X	CER.CAPACITOR	39p	50V
C241	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C242	NCB10JK-106X	CER.CAPACITOR	10	6.3V

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Symbol No.	Part No.	Part Name	Description	
C243	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C245	NCB11AK-475X	CER.CAPACITOR	4.7	10V
C248	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C249	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C253	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C254	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C255	NEH90JM-476X	E.CAPACITOR	47	6.3V
C256	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C257	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C258	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C259	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C260	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C261	NEH90JM-476X	E.CAPACITOR	47	6.3V
C262	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C263	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C264	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C265	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C267	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C268	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C269	NDC31HJ-390X	CER.CAPACITOR	39p	50V
C270	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C271	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C272	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C275	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C277	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C278	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C279	NEH91CM-106X	E.CAPACITOR	10	16V
C280	NEH90JM-107X	E.CAPACITOR	100	6.3V
C281	NEH90JM-107X	E.CAPACITOR	100	6.3V
C282	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C283	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C284	NDC31HJ-220X	CER.CAPACITOR	22p	50V
C288	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C291	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C292	NDC31HJ-390X	CER.CAPACITOR	39p	50V
C293	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C294	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C295	NEH90JM-476X	E.CAPACITOR	47	6.3V
C296	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C297	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C298	NEH90JM-476X	E.CAPACITOR	47	6.3V
C299	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C300	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C301	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C302	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C304	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C305	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C306	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C307	NDC31HJ-6R0X	CER.CAPACITOR	6p	50V
C308	NEH90JM-476X	E.CAPACITOR	47	6.3V
C312	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C313	NEH90JM-476X	E.CAPACITOR	47	6.3V
C314	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C315	NDC31HJ-390X	CER.CAPACITOR	39p	50V
C316	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C317	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C319	NEH90JM-107X	E.CAPACITOR	100	6.3V
C320	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C321	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C322	NEH90JM-476X	E.CAPACITOR	47	6.3V
C323	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C324	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C325	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C326	NEH90JM-107X	E.CAPACITOR	100	6.3V
C327	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C328	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C329	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C330	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C331	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C333	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C334	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C335	NCB31CK-104X	CER.CAPACITOR	0.1	16V

Symbol No.	Part No.	Part Name	Description	
C336	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C338	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C339	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C340	NCB11AK-475X	CER.CAPACITOR	4.7	10V
C341	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C342	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C343	NCB11AK-475X	CER.CAPACITOR	4.7	10V
C344	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C345	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C346	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C347	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C348	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C349	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C350	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C351	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C352	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C354	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C355	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C356	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C357	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C358	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C359	NDC31HJ-8R0X	CER.CAPACITOR	8p	50V
C369	NEH90JM-476X	E.CAPACITOR	47	6.3V
C402	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C404	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C502	NDC31HJ-100X	CER.CAPACITOR	10p	50V
C603	NDC31HJ-271X	CER.CAPACITOR	270p	50V
C604	NDC31HJ-121X	CER.CAPACITOR	120p	50V
C605	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C606	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C607	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C609	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C610	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C611	NDC31HJ-220X	CER.CAPACITOR	22p	50V
C612	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C614	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C615	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C616	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C617	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C618	NDC31HJ-5R0X	CER.CAPACITOR	5p	50V
C619	NDC31HJ-470X	CER.CAPACITOR	47p	50V
C621	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1001	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1002	NEH91CM-226X	E.CAPACITOR	22	16V
C1003	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1004	NEH91CM-226X	E.CAPACITOR	22	16V
C1005	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1006	NEH91CM-226X	E.CAPACITOR	22	16V
C1007	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1008	NCB11AK-106X	CER.CAPACITOR	10	10V
C1009	NEH91CM-106X	E.CAPACITOR	10	16V
C1010	NEH91CM-106X	E.CAPACITOR	10	16V
C1011	NEH91CM-476X	E.CAPACITOR	47	16V
C1012	NEH90GM-476X	E.CAPACITOR	47	
C1013	NEH91CM-106X	E.CAPACITOR	10	16V
C1014	NEH91CM-106X	E.CAPACITOR	10	16V
C1015	NEH91CM-106X	E.CAPACITOR	10	16V
C1016	NEH91CM-106X	E.CAPACITOR	10	16V
C1017	NEH91CM-106X	E.CAPACITOR	10	16V
C1018	NEH91CM-106X	E.CAPACITOR	10	16V
C1019	NEH91CM-106X	E.CAPACITOR	10	16V
C1020	NEH91CM-106X	E.CAPACITOR	10	16V
C1021	NEH91CM-106X	E.CAPACITOR	10	16V
C1022	NEH91CM-106X	E.CAPACITOR	10	16V
C1023	NEH91CM-106X	E.CAPACITOR	10	16V
C1024	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1025	NEH91HM-105X	E.CAPACITOR	1	50V
C1026	NEH91CM-106X	E.CAPACITOR	10	16V
C1027	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1028	NEH91CM-106X	E.CAPACITOR	10	16V
C1029	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1030	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C1031	NEH91CM-106X	E.CAPACITOR	10	16V

Symbol No.	Part No.	Part Name	Description	
C1032	NEH91CM-106X	E.CAPACITOR	10	16V
C1033	NEH91CM-106X	E.CAPACITOR	10	16V
C1034	NEH91CM-106X	E.CAPACITOR	10	16V
C1035	NEH91CM-106X	E.CAPACITOR	10	16V
C1036	NEH91CM-106X	E.CAPACITOR	10	16V
C1037	NCB21AK-105X	CER.CAPACITOR	1	10V
C1038	NCB21AK-105X	CER.CAPACITOR	1	10V
C1039	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C1040	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C1041	NCB21AK-105X	CER.CAPACITOR	1	10V
C1042	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1051	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1052	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1053	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1054	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1055	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C1056	NEH91CM-106X	E.CAPACITOR	10	16V
C1057	NEH91CM-106X	E.CAPACITOR	10	16V
C1058	NEH91CM-106X	E.CAPACITOR	10	16V
C1059	NEH91CM-106X	E.CAPACITOR	10	16V
C1060	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2001	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2002	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2003	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2004	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2005	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2006	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2021	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C2031	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2032	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2033	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2060	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2064	NCS31HJ-220X	CER.CAPACITOR	22p	50V
C2065	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2081	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2082	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2091	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2092	NCS31HJ-240X	CER.CAPACITOR	24p	50V
C2101	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2102	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2103	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C2131	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2132	NEH91CM-106X	E.CAPACITOR	10	16V
C2133	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C2134	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2135	NEH91CM-106X	E.CAPACITOR	10	16V
C2136	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2137	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2138	NEH91CM-106X	E.CAPACITOR	10	16V
C2139	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2501	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C3001	NEH91EM-336X	E.CAPACITOR	33	25V
C3002	NEH91EM-106X	E.CAPACITOR	10	25V
C3003	NEH91EM-336X	E.CAPACITOR	33	25V
C3004	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3005	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3006	NBE51CM-336X	TAN.CAPACITOR	33	16V
C3007	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3010	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3011	NEH91EM-106X	E.CAPACITOR	10	25V
C3012	NEH91EM-336X	E.CAPACITOR	33	25V
C3013	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3014	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3015	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C3016	NCB11EK-105X	CER.CAPACITOR	1	25V
C3017	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3018	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3019	NCB11EK-105X	CER.CAPACITOR	1	25V
C3020	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3021	NCB11EK-105X	CER.CAPACITOR	1	25V
C3022	NCB11EK-105X	CER.CAPACITOR	1	25V
C3023	NBE51CM-336X	TAN.CAPACITOR	33	16V
C3024	NCS31EJ-102X	CER.CAPACITOR	1000p	25V

Symbol No.	Part No.	Part Name	Description	
C3025	NBE51CM-336X	TAN.CAPACITOR	33	16V
C3026	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3027	NCB11EK-105X	CER.CAPACITOR	1	25V
C3028	NBE51AM-336X	TAN.CAPACITOR	33	10V
C3029	NCS31EJ-102X	CER.CAPACITOR	1000p	25V
C3030	NBE51AM-336X	TAN.CAPACITOR	33	10V
C3031	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3032	NBE51AM-336X	TAN.CAPACITOR	33	10V
C3033	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3034	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3035	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C3036	NCB11EK-105X	CER.CAPACITOR	1	25V
C3037	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C3038	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3039	NCB11EK-105X	CER.CAPACITOR	1	25V
C3041	NCB11EK-105X	CER.CAPACITOR	1	25V
C3042	NCB11EK-105X	CER.CAPACITOR	1	25V
C3043	NCB11AK-106X	CER.CAPACITOR	10	10V
C3044	NCB11AK-106X	CER.CAPACITOR	10	10V
C3045	NCB11AK-106X	CER.CAPACITOR	10	10V
C3046	NCS31EJ-102X	CER.CAPACITOR	1000p	25V
C3047	NCB11AK-106X	CER.CAPACITOR	10	10V
C3048	NCB11AK-106X	CER.CAPACITOR	10	10V
C3049	NCB11AK-106X	CER.CAPACITOR	10	10V
C3050	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3051	NCB11EK-105X	CER.CAPACITOR	1	25V
C3052	NCB11AK-106X	CER.CAPACITOR	10	10V
C3053	NCB11AK-106X	CER.CAPACITOR	10	10V
C3054	NCB11AK-106X	CER.CAPACITOR	10	10V
C3055	NCS31EJ-102X	CER.CAPACITOR	1000p	25V
C3056	NCB11AK-106X	CER.CAPACITOR	10	10V
C3057	NCB11AK-106X	CER.CAPACITOR	10	10V
C3058	NCB11AK-106X	CER.CAPACITOR	10	10V
C3059	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C4001	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4002	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4003	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4004	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4005	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4006	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4007	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4008	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C4009	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C4010	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C4011	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C4012	NCB31HK-103X	CER.CAPACITOR	0.01	50V
VC601	EC2C01C-X	VARI CAP DIODE		
VC602	EC2C01C-X	VARI CAP DIODE		
L1	NQL114K-220X	COIL	22uH	
L2	NQL114K-220X	COIL	22uH	
L3	NQL114K-220X	COIL	22uH	
L4	NQL114K-220X	COIL	22uH	
L5	NQL114K-220X	COIL	22uH	
L6	NQL114K-220X	COIL	22uH	
L7	NQL114K-220X	COIL	22uH	
L8	NQL114K-220X	COIL	22uH	
L9	NQL024J-100X	COIL	10uH	
L10	NQL024J-5R6X	COIL	5.6uH	
L11	NQL024J-100X	COIL	10uH	
L12	NQL024J-150X	COIL	15uH	
L13	NQL024J-100X	COIL	10uH	
L14	NQL024J-5R6X	COIL	5.6uH	
L15	NQL024J-100X	COIL	10uH	
L16	NQL024J-150X	COIL	15uH	
L17	NQL024J-270X	COIL	27uH	
L18	NQL024J-180X	COIL	18uH	
L19	NQL114K-220X	COIL	22uH	
L201	NQL114K-220X	COIL	22uH	
L202	NQL114K-220X	COIL	22uH	

0 1 **[MAIN]**

Symbol No.	Part No.	Part Name	Description
L203	NQL114K-220X	COIL	22uH
L205	NQL114K-220X	COIL	22uH
L206	NQL114K-220X	COIL	22uH
L207	NQL114K-220X	COIL	22uH
L208	NQL114K-220X	COIL	22uH
L209	NQL114K-220X	COIL	22uH
L210	NQL024J-330X	COIL	33uH
L211	NQL024J-150X	COIL	15uH
L212	NQL114K-220X	COIL	22uH
L213	NQL114K-220X	COIL	22uH
L214	NQL024J-330X	COIL	33uH
L215	NQL024J-150X	COIL	15uH
L216	NQL114K-220X	COIL	22uH
L217	NQL114K-220X	COIL	22uH
L218	NQL114K-220X	COIL	22uH
L220	NQL024J-150X	COIL	15uH
L221	NQL024J-330X	COIL	33uH
L222	NQL024J-150X	COIL	15uH
L223	NQL024J-330X	COIL	33uH
L224	NQL114K-220X	COIL	22uH
L601	NQL024J-330X	COIL	33uH
L602	NQL024J-330X	COIL	33uH
L3001	NQL25CM-330X	COIL	33uH
L3002	NQL25CM-330X	COIL	33uH
L3003	NQL25CM-330X	COIL	33uH
L3004	NQL25CM-330X	COIL	33uH
L3005	NQL25CM-330X	COIL	33uH
L3006	NQL25CM-330X	COIL	33uH
L3007	NQL25CM-330X	COIL	33uH
L3008	NQL25CM-470X	COIL	47uH
L3009	NQL25CM-470X	COIL	47uH
L4001	NQL024J-100X	COIL	10uH
L4002	NQL024J-100X	COIL	10uH
L4003	NQL024J-100X	COIL	10uH
L4004	NQL024J-100X	COIL	10uH
LC1001	NQR0436-001X	LC FILTER	
X1	QAX0017-001	CRYSTAL	14.31818MHz
X2	QAX0214-001	CRYSTAL	17.734475MHz
X201	NAX0348-001X	CRYSTAL	27.000MHz
X2001	NAX0536-001X	CRYSTAL	13.500MHz
X2003	NAX0325-001X	CRYSTAL	32.768KHz
TH3003	NAD0023-003X	THERMISTOR	00k
⚠F3001	NMFZ011-3R15X-S	FUSE	3.15A
S4001	QSW0269-002	SLIDE SWITCH	
J1	QNZ0593-001	JACK BOARD	AV IN/OUT
J2	QNZ0475-001	9 PIN CONNECTOR	RS422A
J3	QNS0037-001	3.5 JACK	SERIAL IN
J4	QNA0033-001	DC JACK	DC 12V
CN1001	QGA1201C2-03X	CONNECTOR	3PIN
CN3001	QGA2501C1-04	CONNECTOR	4PIN
CN4001	QGF0508F2-45X	CONNECTOR	45PIN
CN4002	QGF0508F2-45X	CONNECTOR	45PIN
CN4003	QGF0508F2-30X	CONNECTOR	30PIN
CN4004	QGB0502L1-40X	CONNECTOR	40PIN
CN4005	QGA1201C2-02X	CONNECTOR	2PIN
TP1	NNZ0009-001X	TEST POINT	TP1-TP8
TP10	NNZ0022-001X	TEST POINT	
TP201	NNZ0022-001X	TEST POINT	TP201 & TP203
TP204	NNZ0009-001X	TEST POINT	TP204 TO TP212

Symbol No.	Part No.	Part Name	Description	
BT2001	QAB0020-001	LI BATTERY		
FL1	QQR0454-001	FL FILTER		
K1	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
K2	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
K202	NQR0200-005X	FERRITE BEADS		
K203	PGZ01994-601Z	FERRITE BEADS		
K204	NQR0200-005X	FERRITE BEADS		
K1001	NQR0200-005X	FERRITE BEADS		
K1002	PGZ01994-601Z	FERRITE BEADS		
K1003	PGZ01994-601Z	FERRITE BEADS		
K1004	PGZ01994-601Z	FERRITE BEADS		
K1005	NQR0200-005X	FERRITE BEADS		
K1006	PGZ01994-601Z	FERRITE BEADS		
K1007	NQR0200-005X	FERRITE BEADS		
K2001	NQR0265-001X	FERAITE BEADS		
K2002	NQR0265-001X	FERAITE BEADS		
K4001	NQR0200-005X	FERRITE BEADS		
K4002	NQR0200-005X	FERRITE BEADS		
K4003	NQR0200-005X	FERRITE BEADS		
K4005	NQR0200-005X	FERRITE BEADS		
CL1	PGZ01978	MINI CLAMP		

6.2 FRONT BOARD ASSEMBLY PARTS LIST 02

LK2129A0A1 02

Symbol No.	Part No.	Part Name	Description
IC1	SBX3071-52	I.C.(M)	SONY
Q1	DTC124EUA-X	TRANSISTOR	ROHM
Q2	DTC124EUA-X	TRANSISTOR	ROHM
Q4	DTC124EUA-X	TRANSISTOR	ROHM
Q5	DTC124EUA-X	TRANSISTOR	ROHM
Q6	DTC124EUA-X	TRANSISTOR	ROHM
Q7	DTC124EUA-X	TRANSISTOR	ROHM
Q8	DTC124EUA-X	TRANSISTOR	ROHM
LD1	GL3CL8	L.E.D.	OPERATE
LD2	SLR-342VR3F	L.E.D.	A.DUB
LD3	SLR-342MG3F	L.E.D.	CASSETTE TAPE
LD4	SLR-342MG3F	L.E.D.	DVCAM
LD5	SLR-342MG3F	L.E.D.	NTSC
LD6	SLR-342MG3F	L.E.D.	PAL
LD7	SLR-342VR3F	L.E.D.	REC INH
LD8	SLR-342MG3F	L.E.D.	AUD INDI L1 LED
LD9	SLR-342MG3F	L.E.D.	AUD INDI L2 LED
LD10	SLR-342MG3F	L.E.D.	AUD INDI L3 LED
LD11	SLR-342MG3F	L.E.D.	AUD INDI R1 LED
LD12	SLR-342MG3F	L.E.D.	AUD INDI R2 LED
LD13	SLR-342MG3F	L.E.D.	AUD INDI R3 LED
LD14	SLR-342VR3F	L.E.D.	REC
LD15	SLR-342MG3F	L.E.D.	PLAY
LD16	SLR-342MG3F	L.E.D.	PAUSE
LD17	SLR-342MG3F	L.E.D.	REW
LD18	SLR-342MG3F	L.E.D.	FF
R1	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R2	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R3	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R4	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R5	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R6	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R7	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R8	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R9	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R10	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R11	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R12	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R13	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R14	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R15	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R16	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R17	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R18	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R19	NRSA63J-271X	M.G.RESISTOR	270 1/16W
R20	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R21	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
C1	NCB31HK-103X	CER.CAPACITOR	0.01 50V
S1	QSW0164-001	TACT SWITCH	OPERATE
S2	QSW0164-001	TACT SWITCH	A.DUB
S3	QSW0340-001	SLIDE SWITCH	REMOTE SELECT
S4	QSW0340-001	SLIDE SWITCH	INPUT SELECT
S5	QSW0164-001	TACT SWITCH	EJECT
S6	QSW0164-001	TACT SWITCH	REC
S7	QSW0164-001	TACT SWITCH	PB
S8	QSW0164-001	TACT SWITCH	PAUSE
S9	QSW0164-001	TACT SWITCH	REW
S10	QSW0164-001	TACT SWITCH	STOP
S11	QSW0164-001	TACT SWITCH	FF
CN1	QGF0508F1-45X	CONNECTOR	45PIN

6.3 DVCONN BOARD ASSEMBLY PARTS LIST 03

LK2129A0A2 03

Symbol No.	Part No.	Part Name	Description
R201	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R202	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R203	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R204	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
J201	QNZ0097-001	JACK	DV IN/OUT
CN201	QGA1201F2-06X	CONNECTOR	6PIN
K201	NQR0200-005X	FERRITE BEADS	
K202	NQR0200-005X	FERRITE BEADS	

6.4 MIC BOARD ASSEMBLY PARTS LIST 04

LK2129A0A3 04

Symbol No.	Part No.	Part Name	Description
D301	MA3091/M/-X	ZENER DIODE	MATSUSHITA
D302	MA3091/M/-X	ZENER DIODE	MATSUSHITA
R301	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
C301	NDC31HJ-221X	CER.CAPACITOR	220p 50V
C302	NDC31HJ-221X	CER.CAPACITOR	220p 50V
L301	NQL024J-100X	COIL	10uH
J301	QNS0045-001	3.5 JACK	MIC
CN301	QGA1201F2-03X	CONNECTOR	3PIN
K302	NQR0155-004X	FERRITE CORE	

6.5 DV/CPU BOARD ASSEMBLY PARTS LIST 1 1

LK2125-A0B 1 1☐☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC1	JCY0132	I.C.(M)	JVC
IC2	TC7SH00FU-X	I.C.(M)	TOSHIBA
IC3	TC7SH00FU-X	I.C.(M)	TOSHIBA
IC101	TLC2940IPW-X	I.C.(M)	TEXAS
IC102	JCY0136-X	I.C.(M)	JVC
IC103	JCY0152	I.C.(M)	JVC
IC104	SN74AHC574PW-X	I.C.(M)	TEXAS
IC105	SN74AHC574PW-X	I.C.(M)	TEXAS
IC106	SN74AHC245DGV-X	I.C.(M)	TEXAS
IC107	TC7W53FU-X	I.C.(M)	TOSHIBA
IC301	M95320-WMN6-X	I.C.(M)	MITSUBISHI
IC302	PLSL1141	MSD CPU	MN103SF33NY4
IC402	MM1571JN-X	I.C.(M)	MITSUMI
IC404	TC7W14FU-X	I.C.(M)	TOSHIBA
IC405	M62366GP-X	I.C.(M)	MITSUBISHI
Q102	DTC143EUA-X	TRANSISTOR	ROHM
Q402	DTA114EUA-X	TRANSISTOR	ROHM
Q403	DTA114EUA-X	TRANSISTOR	ROHM
Q404	DTA114EUA-X	TRANSISTOR	ROHM
Q405	DTA114EUA-X	TRANSISTOR	ROHM
Q406	UMC3N-W	TRANSISTOR	ROHM
Q407	UMC3N-W	TRANSISTOR	ROHM
Q408	UMC3N-W	TRANSISTOR	ROHM
Q409	UMC3N-W	TRANSISTOR	ROHM
Q410	DTA114EUA-X	TRANSISTOR	ROHM
Q411	2SA1577/PQ/-X	TRANSISTOR	ROHM
Q412	2SA1577/PQ/-X	TRANSISTOR	ROHM
D101	EC2C01C-X	DIODE ARRAY	SANYO
D102	EC2C01C-X	DIODE ARRAY	SANYO
D103	EC2C01C-X	DIODE ARRAY	SANYO
D401	DAN202U-X	DIODE	ROHM
D402	DAN202U-X	DIODE	ROHM
D403	DAN202U-X	DIODE	ROHM
R3	NRSA63J-471X	M.G.RESISTOR	470 1/16W
R4	NRSA63J-104X	M.G.RESISTOR	100k 1/16W
R5	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R6	NRSA63J-241X	M.G.RESISTOR	240 1/16W
R7	NRSA63J-241X	M.G.RESISTOR	240 1/16W
R8	NRSA63J-241X	M.G.RESISTOR	240 1/16W
R9	NRSA63J-241X	M.G.RESISTOR	240 1/16W
R10	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R11	NRSA63J-472X	M.G.RESISTOR	4.7k 1/16W
R12	NRSA63J-223X	M.G.RESISTOR	22k 1/16W
R13	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R14	NRSA63D-560X	M.G.RESISTOR	56 1/16W
R101	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R104	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R105	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R106	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R107	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R108	NRSA63J-221X	M.G.RESISTOR	220 1/16W
R109	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R111	NRSA63J-102X	M.G.RESISTOR	1k 1/16W
R112	NRSA63J-151X	M.G.RESISTOR	150 1/16W
R113	NRSA63J-302X	M.G.RESISTOR	3k 1/16W
R114	NRSA63J-151X	M.G.RESISTOR	150 1/16W
R115	NRSA63J-302X	M.G.RESISTOR	3k 1/16W
R116	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R117	NRSA63J-220X	M.G.RESISTOR	22 1/16W
R118	NRSA63J-105X	M.G.RESISTOR	1M 1/16W
R119	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R120	NRSA63J-562X	M.G.RESISTOR	5.6k 1/16W
R121	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R122	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R123	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R124	NRSA63J-224X	M.G.RESISTOR	220k 1/16W
R126	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R127	NRSA63J-242X	M.G.RESISTOR	2.4k 1/16W
R128	NRSA63J-392X	M.G.RESISTOR	3.9k 1/16W

Symbol No.	Part No.	Part Name	Description
R129	NRSA63J-392X	M.G.RESISTOR	3.9k 1/16W
R130	NRSA63D-560X	M.G.RESISTOR	56 1/16W
R131	NRSA63D-560X	M.G.RESISTOR	56 1/16W
R132	NRSA63D-560X	M.G.RESISTOR	56 1/16W
R133	NRSA63D-560X	M.G.RESISTOR	56 1/16W
R134	NRSA63D-512X	M.G.RESISTOR	5.1k 1/16W
R139	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R141	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R142	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R147	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R148	NRSA63J-681X	M.G.RESISTOR	680 1/16W
R149	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R150	NRSA63J-222X	M.G.RESISTOR	2.2k 1/16W
R151	NRSA63J-224X	M.G.RESISTOR	220k 1/16W
R152	NRSA63J-224X	M.G.RESISTOR	220k 1/16W
R153	NRSA63J-105X	M.G.RESISTOR	1M 1/16W
R154	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R155	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R156	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R157	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R158	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R159	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R160	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R164	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R165	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R166	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R167	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R168	NRSA63J-560X	M.G.RESISTOR	56 1/16W
R169	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R170	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R171	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R172	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R173	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R174	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R176	NRSA63J-105X	M.G.RESISTOR	1M 1/16W
R178	NRSA63J-182X	M.G.RESISTOR	1.8k 1/16W
R179	NRSA63J-561X	M.G.RESISTOR	560 1/16W
R181	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R183	NRSA63J-330X	M.G.RESISTOR	33 1/16W
R301	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R302	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R303	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R304	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R305	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R306	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R307	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R308	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R309	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R310	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R311	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R312	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R313	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R314	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R315	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R316	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R317	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R318	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R319	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R320	NRSA63J-0R0X	M.G.RESISTOR	0 1/16W
R321	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R322	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R323	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R324	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R325	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R326	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R327	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R328	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R329	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R330	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R331	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R332	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R333	NRSA63J-103X	M.G.RESISTOR	10k 1/16W
R334	NRSA63J-103X	M.G.RESISTOR	10k 1/16W

Symbol No.	Part No.	Part Name	Description	
R335	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R336	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R337	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R338	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R339	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R340	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R341	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R342	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R343	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R344	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R345	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R346	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R347	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R348	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R349	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R350	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R351	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R352	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R357	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R358	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R401	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R402	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R405	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R406	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R407	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R408	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R409	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R410	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R411	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R412	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R413	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R415	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R416	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R417	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R418	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R419	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R420	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R421	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R422	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R423	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R424	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R425	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R426	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R427	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R428	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R429	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R430	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R431	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R432	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R433	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R434	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R435	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R436	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R437	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R438	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R439	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R440	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R441	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R442	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R443	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R444	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R445	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R446	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R447	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R448	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R449	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R450	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R451	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R452	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R453	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R455	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R456	NRSA63J-103X	M.G.RESISTOR	10k	1/16W

Symbol No.	Part No.	Part Name	Description	
R457	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R458	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R459	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R460	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R461	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R462	NRSA63J-125X	M.G.RESISTOR	1.2M	1/16W
R463	NRSA63J-824X	M.G.RESISTOR	820k	1/16W
R464	NRSA63J-275X	M.G.RESISTOR	2.7M	1/16W
R465	NRSA63J-824X	M.G.RESISTOR	820k	1/16W
R466	NRSA63J-275X	M.G.RESISTOR	2.7M	1/16W
R467	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R468	NRSA63J-125X	M.G.RESISTOR	1.2M	1/16W
R469	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R470	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R471	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R472	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R473	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R474	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R475	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R476	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R477	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R478	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R479	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R480	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R481	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R482	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R483	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R484	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R485	NRSA63J-332X	M.G.RESISTOR	3.3k	1/16W
R486	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R487	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R488	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R489	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R490	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R491	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R492	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R493	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R494	NRSA63J-101X	M.G.RESISTOR	100	1/16W
R495	NRSA63D-273X	M.G.RESISTOR	27k	1/16W
R501	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
RA101	NRZ0015-102X	RESISTOR ARRAY	1k	
RA102	NRZ0015-103X	M.G.RESISTOR	10k	
RA103	NRZ0015-103X	M.G.RESISTOR	10k	
RA104	NRZ0015-330X	R.NETWORK	33	
RA105	NRZ0015-330X	R.NETWORK	33	
RA106	NRZ0015-330X	R.NETWORK	33	
RA107	NRZ0015-330X	R.NETWORK	33	
RA401	NRZ0015-101X	RESISTOR ARRAY	100	
RA402	NRZ0015-101X	RESISTOR ARRAY	100	
RA403	NRZ0015-101X	RESISTOR ARRAY	100	
C1	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C2	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C3	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C4	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C5	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C6	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C7	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C8	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C9	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C10	NBE21AM-106X	TAN.CAPACITOR	10	10V
C11	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C12	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C13	NBE21AM-106X	TAN.CAPACITOR	10	10V
C14	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C15	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C16	NBE41CM-106X	TAN.CAPACITOR	10	16V
C17	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C18	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C19	NBE41CM-106X	TAN.CAPACITOR	10	16V
C20	NCB31CK-104X	CER.CAPACITOR	0.1	16V

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Symbol No.	Part No.	Part Name	Description	
C21	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C22	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C23	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C24	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C25	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C26	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C27	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C28	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C29	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C30	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C31	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C32	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C33	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C34	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C35	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C101	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C102	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C103	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C104	NDC31HJ-151X	CER.CAPACITOR	150p	50V
C106	NCB30JK-105X	CER.CAPACITOR	1	6.3V
C108	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C109	NBE21AM-106X	TAN.CAPACITOR	10	10V
C110	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C111	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C112	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C113	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C114	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C115	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C116	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C117	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C118	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C119	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C120	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C121	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C122	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C123	NDC31HJ-120X	CER.CAPACITOR	12p	50V
C124	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C125	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C126	NDC31HJ-390X	CER.CAPACITOR	39p	50V
C127	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C128	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C129	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C130	NCB11CK-105X	CER.CAPACITOR	1	16V
C131	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C133	NDC31HJ-271X	CER.CAPACITOR	270p	50V
C135	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C136	NCB31HK-222X	CER.CAPACITOR	2200p	50V
C137	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C138	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C139	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C140	NDC31HJ-390X	CER.CAPACITOR	39p	50V
C141	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C142	NDC31HJ-330X	CER.CAPACITOR	33p	50V
C143	NDC31HJ-6R0X	CER.CAPACITOR	6p	50V
C144	NDC31HJ-6R0X	CER.CAPACITOR	6p	50V
C145	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C146	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C147	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C148	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C149	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C150	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C151	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C152	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C154	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C155	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C156	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C301	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C302	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C303	NCF31AZ-105X	CER.CAPACITOR	1	10V
C304	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C305	NCF31AZ-105X	CER.CAPACITOR	1	10V
C306	NDC31HJ-150X	CER.CAPACITOR	15p	50V
C307	NDC31HJ-150X	CER.CAPACITOR	15p	50V

Symbol No.	Part No.	Part Name	Description	
C308	NCF31AZ-105X	CER.CAPACITOR	1	10V
C309	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C310	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C311	NCF31AZ-105X	CER.CAPACITOR	1	10V
C312	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C313	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C401	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C402	NBE41CM-106X	TAN.CAPACITOR	10	16V
C403	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C406	NBE21AM-106X	TAN.CAPACITOR	10	10V
C407	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C408	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C409	NBE21AM-106X	TAN.CAPACITOR	10	10V
C410	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C411	NCB11CK-105X	CER.CAPACITOR	1	16V
C412	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C413	NBE21AM-106X	TAN.CAPACITOR	10	10V
C414	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C415	NBE21AM-106X	TAN.CAPACITOR	10	10V
C416	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C419	NBE21AM-106X	TAN.CAPACITOR	10	10V
C420	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C421	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C422	NBE21AM-106X	TAN.CAPACITOR	10	10V
C423	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C424	NBE21AM-106X	TAN.CAPACITOR	10	10V
C425	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C426	NBE21AM-106X	TAN.CAPACITOR	10	10V
C427	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C428	NBE21AM-106X	TAN.CAPACITOR	10	10V
C429	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C430	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C432	NCB11CK-105X	CER.CAPACITOR	1	16V
C433	NCB11CK-105X	CER.CAPACITOR	1	16V
C434	NBE21AM-106X	TAN.CAPACITOR	10	10V
C435	NBE21AM-106X	TAN.CAPACITOR	10	10V
C436	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C437	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C438	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C439	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C442	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C443	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C444	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C445	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C446	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C447	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C448	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C449	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C450	NCB31HK-102X	CER.CAPACITOR	1000p	50V
C451	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C452	NBE21AM-106X	TAN.CAPACITOR	10	10V
C453	NCB31CK-104X	CER.CAPACITOR	0.1	16V
L1	NQL044K-100X	COIL	10uH	
L2	NQL044K-100X	COIL	10uH	
L3	NQL044K-100X	COIL	10uH	
L4	NQL044K-100X	COIL	10uH	
L101	NQL024J-2R2X	COIL	2.2uH	
L102	NQR0276-001X	COIL	000uH	
L103	NQL024J-120X	COIL	12uH	
L104	NQL024J-100X	COIL	10uH	
L105	NQL044K-100X	COIL	10uH	
L402	NQL044K-100X	COIL	10uH	
L403	NQL044K-100X	COIL	10uH	
L404	NQL044K-100X	COIL	10uH	
L405	NQL044K-100X	COIL	10uH	
L406	NQL044K-100X	COIL	10uH	
L408	NQL044K-100X	COIL	10uH	
LC401	NQR0436-001X	LC FILTER		
LC402	NQR0436-001X	LC FILTER		
LC403	NQR0436-001X	LC FILTER		

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Symbol No.	Part No.	Part Name	Description
LC404	NQR0436-001X	LC FILTER	
LC405	NQR0436-001X	LC FILTER	
X101	NAX0141-001X	CRYSTAL	41.850MHz
X102	NAX0206-001X	CRYSTAL	24.576MHz
X301	NAX0348-001X	CRYSTAL	27.000MHz
CN101	QGA1201F2-06X	CONNECTOR	6PIN
CN102	QGF0508C1-30W	CONNECTOR	30PIN
CN103	QGF0508C1-45W	CONNECTOR	45PIN
CN104	QGF0508C1-13W	CONNECTOR	13PIN
CN105	QGF0508C1-26W	CONNECTOR	26PIN
CN106	QGF0508C1-20W	CONNECTOR	20PIN
CN107	QGF0503F4-08X	CONNECTOR	8PIN
CN108	QGA1501F2-08W	CONNECTOR	8PIN
TP1	NNZ0071-001X	TEST POINT	TP1-TP3
K1	NQR0265-001X	FERAITE BEADS	
K101	NQR0265-001X	FERAITE BEADS	
K103	NQR0265-001X	FERAITE BEADS	
K401	NQR0265-001X	FERAITE BEADS	
K402	NQR0265-001X	FERAITE BEADS	

Symbol No.	Part No.	Part Name	Description	
IC11	BA6865KV	I.C.(M)	ROHM	
IC12	BA6417F-X	I.C.(M)	ROHM	
IC21	BA6862FS-X	I.C.(M)	ROHM	
IC22	BA10358F-XE	I.C.(M)	ROHM	
IC23	BA10393F-XE	I.C.(M)	ROHM	
IC31	BA9743AFV-X	I.C.(M)	ROHM	
IC32	BA9743AFV-X	I.C.(M)	ROHM	
IC41	BA9743AFV-X	I.C.(M)	ROHM	
IC42	MM1572KN-X	I.C.(M)	MITSUMI	
IC43	MM1572FN-X	I.C.(M)	MITSUMI	
Q11	2SB1302/ST/-X	TRANSISTOR	SANYO	
Q12	2SB1302/ST/-X	TRANSISTOR	SANYO	
Q13	2SB1302/ST/-X	TRANSISTOR	SANYO	
Q14	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q15	2SC4081/QRS/-X	TRANSISTOR	ROHM	
Q21	2SB1302/ST/-X	TRANSISTOR	SANYO	
Q22	2SB1302/ST/-X	TRANSISTOR	SANYO	
Q23	2SB1302/ST/-X	TRANSISTOR	SANYO	
Q31	2SJ484WY-X	FET	HITACHI	
Q32	2SJ484WY-X	FET	HITACHI	
Q33	2SJ484WY-X	FET	HITACHI	
Q34	DTC124EUA-X	TRANSISTOR	ROHM	
Q35	2SB1302/ST/-X	TRANSISTOR	SANYO	
Q36	2SJ484WY-X	FET	HITACHI	
Q37	DTA114EUA-X	TRANSISTOR	ROHM	
Q41	2SJ484WY-X	FET	HITACHI	
Q42	2SJ484WY-X	FET	HITACHI	
Q43	2SC4097/QR/-X	TRANSISTOR	ROHM	
Q44	2SA1577/QR/-X	TRANSISTOR	ROHM	
Q45	2SC4097/QR/-X	TRANSISTOR	ROHM	
Q46	2SA1577/QR/-X	TRANSISTOR	ROHM	
Q51	2SC4097/QR/-X	TRANSISTOR	ROHM	
Q52	2SA1577/QR/-X	TRANSISTOR	ROHM	
Q53	2SC4097/QR/-X	TRANSISTOR	ROHM	
Q54	2SA1577/QR/-X	TRANSISTOR	ROHM	
Q55	2SC4097/QR/-X	TRANSISTOR	ROHM	
Q56	2SA1577/QR/-X	TRANSISTOR	ROHM	
Q57	2SC4097/QR/-X	TRANSISTOR	ROHM	
Q58	2SA1577/QR/-X	TRANSISTOR	ROHM	
D11	DAP222-X	DIODE	ROHM	
D12	MA3110/L/-X	ZENER DIODE	MATSUSHITA	
D13	DAP222-X	DIODE	ROHM	
D22	MA3020-X	ZENER DIODE	MATSUSHITA	
D31	SFPB-72-W	SB DIODE	SANKEN	
D32	SFPB-72-W	SB DIODE	SANKEN	
D33	DAP202U-X	DIODE	ROHM	
D34	SFPB-72-W	SB DIODE	SANKEN	
D35	DA204U-X	DIODE	ROHM	
D36	SFPB-72-W	SB DIODE	SANKEN	
D37	DAP202U-X	DIODE	ROHM	
D41	SFPB-72-W	SB DIODE	SANKEN	
D42	SFPB-72-W	SB DIODE	SANKEN	
R101	NRSA63J-155X	M.G.RESISTOR	1.5M	1/16W
R102	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R103	NRSA63J-681X	M.G.RESISTOR	680	1/16W
R104	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R105	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R106	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R107	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R108	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R109	NRSA63J-511X	M.G.RESISTOR	510	1/16W
R110	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R111	NRV142F-R22X	C.M.F.RESISTOR	0.22	1/4W
R112	NRS12BK-R68X	M.G.RESISTOR	0.68	1/2W
R113	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R114	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R115	NRSA63J-202X	M.G.RESISTOR	2k	1/16W
R116	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R117	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R118	NRSA63J-103X	M.G.RESISTOR	10k	1/16W

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Symbol No.	Part No.	Part Name	Description	
R120	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R121	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R122	NRSA63J-203X	M.G.RESISTOR	20k	1/16W
R123	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R124	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R125	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R126	NRSA63J-274X	M.G.RESISTOR	270k	1/16W
R127	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R128	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R131	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R132	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R133	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R134	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R135	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R136	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R138	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R139	NRS12BK-R68X	M.G.RESISTOR	0.68	1/2W
R201	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R202	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R203	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R204	NRSA63J-124X	M.G.RESISTOR	120k	1/16W
R205	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R206	NRSA63J-154X	M.G.RESISTOR	150k	1/16W
R207	NRSA63J-272X	M.G.RESISTOR	2.7k	1/16W
R208	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R209	NRS144J-1R0X	M.G.RESISTOR	1	1/4W
R210	NRS144J-1R0X	M.G.RESISTOR	1	1/4W
R211	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R212	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R213	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R214	NRSA63J-273X	M.G.RESISTOR	27k	1/16W
R215	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R216	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R217	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R218	NRSA63J-121X	M.G.RESISTOR	120	1/16W
R219	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R220	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R221	NRSA63J-474X	M.G.RESISTOR	470k	1/16W
R222	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R223	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R224	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R225	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R226	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R227	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R228	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R229	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R230	NRSA63J-105X	M.G.RESISTOR	1M	1/16W
R301	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R302	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R303	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R304	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R305	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R306	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R307	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R308	NRSA63J-683X	M.G.RESISTOR	68k	1/16W
R309	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R310	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R311	NRSA63J-393X	M.G.RESISTOR	39k	1/16W
R312	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R313	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R314	NRSA63J-153X	M.G.RESISTOR	15k	1/16W
R315	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R316	NRSA63J-104X	M.G.RESISTOR	100k	1/16W
R317	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R318	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R319	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R320	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R321	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R322	NRSA63D-103X	M.G.RESISTOR	10k	1/16W
R323	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R324	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R325	NRSA63J-473X	M.G.RESISTOR	47k	1/16W

Symbol No.	Part No.	Part Name	Description	
R326	NRSA63J-472X	M.G.RESISTOR	4.7k	1/16W
R327	NRSA63J-152X	M.G.RESISTOR	1.5k	1/16W
R328	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R329	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R330	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R331	NRSA63J-473X	M.G.RESISTOR	47k	1/16W
R332	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R333	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R334	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R335	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R336	NRSA63J-562X	M.G.RESISTOR	5.6k	1/16W
R337	NRSA63J-223X	M.G.RESISTOR	22k	1/16W
R338	NRSA63J-333X	M.G.RESISTOR	33k	1/16W
R339	NRSA63J-563X	M.G.RESISTOR	56k	1/16W
R340	NRSA63J-823X	M.G.RESISTOR	82k	1/16W
R341	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R342	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R343	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R344	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R345	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R346	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R351	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R401	NRSA63J-103X	M.G.RESISTOR	10k	1/16W
R402	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R403	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
R404	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R405	NRSA63D-332X	M.G.RESISTOR	3.3k	1/16W
R406	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R407	NRSA63D-472X	M.G.RESISTOR	4.7k	1/16W
R408	NRSA63D-473X	M.G.RESISTOR	47k	1/16W
R409	NRSA63D-273X	M.G.RESISTOR	27k	1/16W
R410	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R411	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R412	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R413	NRSA63D-182X	M.G.RESISTOR	1.8k	1/16W
R414	NRSA63D-122X	M.G.RESISTOR	1.2k	1/16W
R415	NRSA63J-222X	M.G.RESISTOR	2.2k	1/16W
R416	NRSA63J-102X	M.G.RESISTOR	1k	1/16W
R417	NRSA63D-562X	M.G.RESISTOR	5.6k	1/16W
R418	NRSA63D-272X	M.G.RESISTOR	2.7k	1/16W
R419	NRSA63J-330X	M.G.RESISTOR	33	1/16W
R420	NRSA63J-100X	M.G.RESISTOR	10	1/16W
R421	NRSA63J-100X	M.G.RESISTOR	10	1/16W
C104	NBE21AM-106X	TAN.CAPACITOR	10	10V
C105	NEH91CM-106X	E.CAPACITOR	10	16V
C106	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C107	NCB31HK-152X	CER.CAPACITOR	1500p	50V
C108	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C109	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C120	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C121	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C122	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C123	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C124	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C125	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C126	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C127	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C128	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C129	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C130	NEH91CM-106X	E.CAPACITOR	10	16V
C131	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C132	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C133	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C134	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C135	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C136	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C137	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C138	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C139	NEH90JM-226X	E.CAPACITOR	22	6.3V
C140	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C142	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C143	NCB31CK-223X	CER.CAPACITOR	0.022	16V

Symbol No.	Part No.	Part Name	Description	
C144	NCB31CK-473X	CER.CAPACITOR	0.047	16V
C145	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C147	NCB11CK-105X	CER.CAPACITOR	1	16V
C148	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C149	NEH90JM-226X	E.CAPACITOR	22	6.3V
C156	NCB11CK-105X	CER.CAPACITOR	1	16V
C157	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C158	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C159	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C160	NDC31HJ-471X	CER.CAPACITOR	470p	50V
C201	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C202	NEH91CM-106X	E.CAPACITOR	10	16V
C203	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C204	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C205	NCB31HK-153X	CER.CAPACITOR	0.015	50V
C206	NCB31CK-273X	CER.CAPACITOR	0.027	16V
C207	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C209	NCF31AZ-105X	CER.CAPACITOR	1	10V
C210	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C211	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C212	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C213	NCB31CK-223X	CER.CAPACITOR	0.022	16V
C214	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C215	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C216	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C217	NCF31AZ-105X	CER.CAPACITOR	1	10V
C218	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C219	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C220	NCF31AZ-105X	CER.CAPACITOR	1	10V
C221	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C301	NEH91VM-106X	E.CAPACITOR	10	35V
C303	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C304	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C305	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C306	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C307	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C308	NCB11CK-105X	CER.CAPACITOR	1	16V
C309	NBE21DM-475X	TAN.CAPACITOR	4.7	20V
C311	NCB11CK-105X	CER.CAPACITOR	1	16V
C312	NBE21DM-475X	TAN.CAPACITOR	4.7	20V
C313	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C314	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C315	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C316	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C317	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C318	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C319	NCB11CK-105X	CER.CAPACITOR	1	16V
C320	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C321	NCB11CK-105X	CER.CAPACITOR	1	16V
C322	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C323	NDC31HJ-102X	CER.CAPACITOR	1000p	50V
C401	NDC31HJ-221X	CER.CAPACITOR	220p	50V
C402	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C403	NCB11CK-475X	CER.CAPACITOR	4.7	16V
C404	NCB31CK-104X	CER.CAPACITOR	0.1	16V
C405	NCF31AZ-105X	CER.CAPACITOR	1	10V
C407	NCF11CZ-225X	CER.CAPACITOR	2.2	16V
C408	NCF31AZ-105X	CER.CAPACITOR	1	10V
C409	NCB11CK-105X	CER.CAPACITOR	1	16V
C410	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C411	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C412	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C413	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C414	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C415	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C416	NCB11CK-105X	CER.CAPACITOR	1	16V
C417	NBE21AM-106X	TAN.CAPACITOR	10	10V
C418	NBE21AM-106X	TAN.CAPACITOR	10	10V
C419	NBE21AM-106X	TAN.CAPACITOR	10	10V
C420	NCB31AK-224X	CER.CAPACITOR	0.22	10V
C421	NCB10JK-106X	CER.CAPACITOR	10	6.3V
C422	NCB31HK-103X	CER.CAPACITOR	0.01	50V

Symbol No.	Part No.	Part Name	Description	
C423	NBE21AM-106X	TAN.CAPACITOR	10	10V
C424	NBE21AM-106X	TAN.CAPACITOR	10	10V
C425	NCB31HK-103X	CER.CAPACITOR	0.01	50V
C426	NBE21AM-106X	TAN.CAPACITOR	10	10V
C427	NBE21AM-106X	TAN.CAPACITOR	10	10V
L21	NQL24CN-220X	COIL	22uH	
L31	NQL42EM-220X	COIL	22uH	
L33	NQL24CN-220X	COIL	22uH	
L34	NQL24CN-220X	COIL	22uH	
L35	NQL24CN-220X	COIL	22uH	
L36	NQL24CN-220X	COIL	22uH	
L41	NQL24CN-220X	COIL	22uH	
L42	NQL24CN-220X	COIL	22uH	
L43	NQL24CN-220X	COIL	22uH	
L44	NQL24CN-220X	COIL	22uH	
L45	NQL24CN-220X	COIL	22uH	
LC11	NQR0436-001X	LC FILTER		
⚠F1	NMFZ011-1R6X-S	FUSE	1.6A	
CN105	QGF0508C1-26W	CONNECTOR	26PIN	
CN108	QGA1501C2-08W	CONNECTOR	8PIN	
CN111	SS30662-004	CONNECTOR	4PIN	
CN112	QGF0508C1-12W	CONNECTOR	12PIN	
CN113	QGF0508C1-18W	CONNECTOR	18PIN	
CN114	QGA1201C2-02X	CONNECTOR	2PIN	
CN116	QGF0508C1-20W	CONNECTOR	20PIN	
CN117	QGA1501C2-02W	CONNECTOR	2PIN	
CN119	QGA1201C2-02X	CONNECTOR	2PIN	
K1	NRSA63J-0R0X	M.G.RESISTOR	0	1/16W
QA11	BA6254FS-X	TRANSIST.ARRAY		

6.7 MECHA BOARD ASSEMBLY PARTS LIST 1 3

LK2123A0A1 1 3

Symbol No.	Part No.	Part Name	Description
VR1	NVQ0006-B14X	VAL.RESISTOR	10k MODE SENSOR
TH1	NAD0002-223X	THERMISTOR	22k
S1	NSW0171-001	PUSH SWITCH	
S2	NSW0170-001	PUSH SWITCH	
S3	NSW0170-001	PUSH SWITCH	
CN104	QGF0508F1-13X	CONNECTOR	13PIN
CN106	QGF0508F1-20X	CONNECTOR	20PIN
CN116	QGF0508F1-20X	CONNECTOR	20PIN
CN124	QGF0508F1-18X	CONNECTOR	18PIN
CN125	QGF0508F2-10X	CONNECTOR	10PIN
CN128	QGA1201C2-02X	CONNECTOR	2PIN

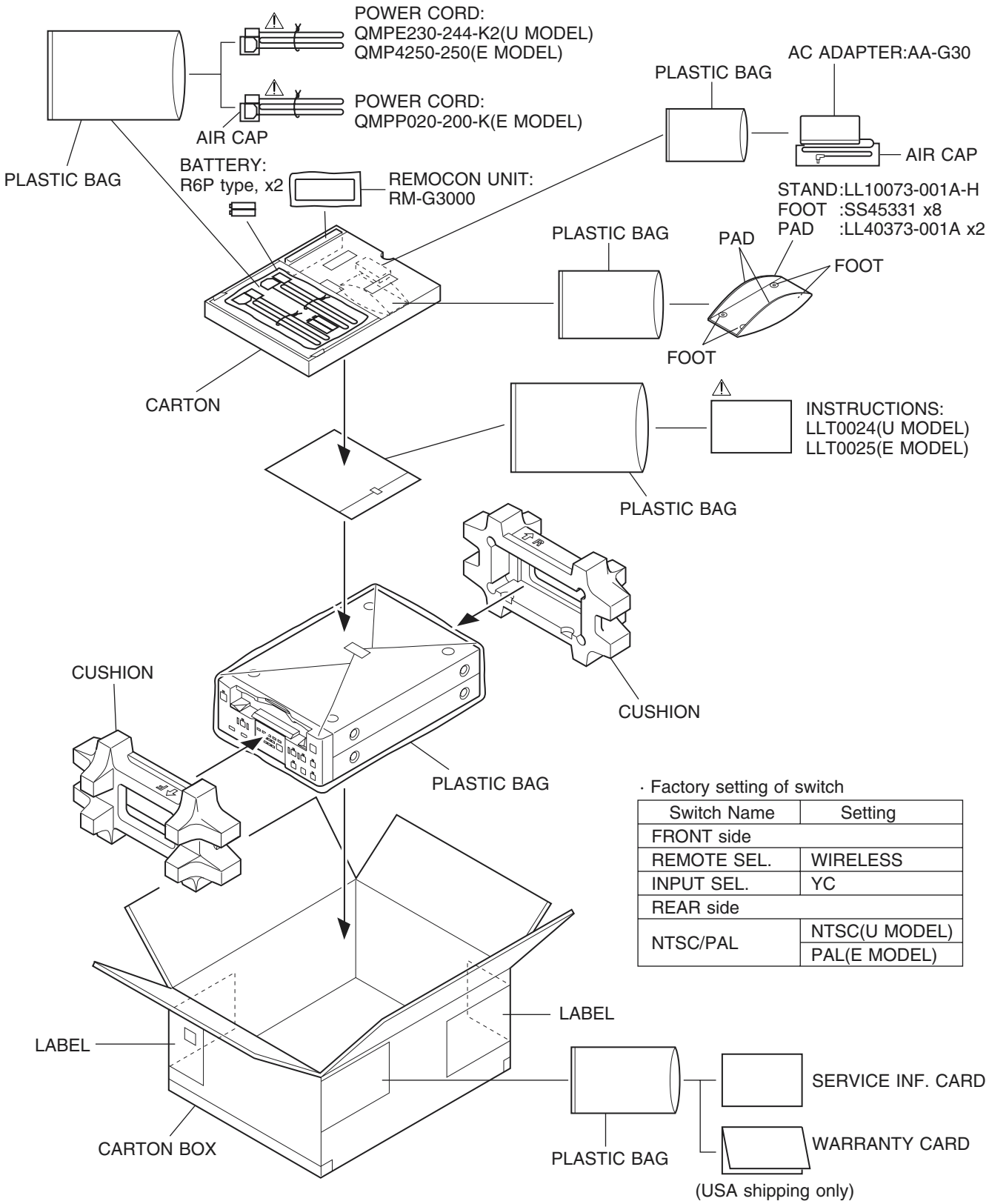
6.8 MECHA CONN BOARD ASSEMBLY PARTS LIST 1 4

LK2123A0A2 1 4

Symbol No.	Part No.	Part Name	Description
CN100	QGF0508F1-11X	CONNECTOR	11PIN
CN112	QGF0508C1-12W	CONNECTOR	12PIN

SECTION 7
PACKING

7.1 PACKING ASSEMBLY M 1



· Factory setting of switch

Switch Name	Setting
FRONT side	
REMOTE SEL.	WIRELESS
INPUT SEL.	YC
REAR side	
NTSC/PAL	NTSC(U MODEL)
	PAL(E MODEL)

Note : Accessories above are subject to change without notice.

SECTION 4
CHARTS AND DIAGRAMS

■ SCHEMATIC DIAGRAM NOTES

- Schematic safety precaution

  ⚠ Parts are safety related parts.
  When replacing them, be sure to use the specified parts.

- Voltage and waveform measurements

  Voltage: Measured with digital voltmeter in DC range; in REC mode.
  Value in ( ) is indicated only in the case PB voltage is different from that in REC mode.

  Waveform: Measured by supplying the 100% color bar signal and 1kHz, -8dB sine wave in REC or PB mode.

  Switch setting : VIDEO INPUT SELECT : LINE
  MENU : Initial setting.

- Unit of value

  Unless otherwise specified
  1) Resistance is in Ω (1/6 W)
  2) Capacitance is in μF
  3) Inductance is in μH

- Expression of wiring

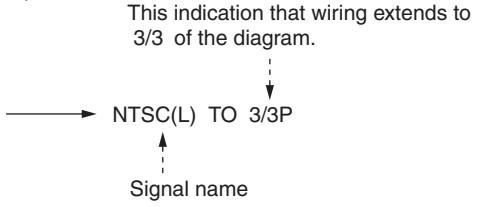
As the following circuit diagram is divided to print on some sheets, such an indication as the following is found in the case the wiring extends over two or more divided sections.

1) Circuit diagram divided into two or more sections:

Board	Board Name	Number of divided sections
0 0	MAIN	1/6 To 6/6
1 1	DV/CPU	1/4 To 4/4
1 2	MOA/DC	1/4 To 4/4
—	OVERALL	1/2 To 2/2

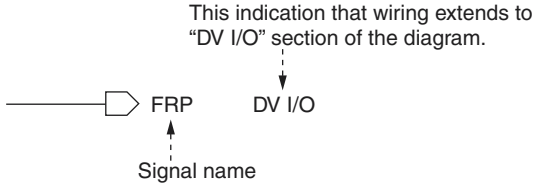
2) Indication of wiring which extends to another section:
(Example)

A)



In the above case, the end of the wiring is connected to the "NTSC(L)" on the 3nd section of the diagram.

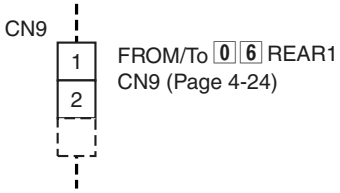
B)



In the above case, the end of the wiring is connected to the "FRP" on the "DV I/O" section of the diagram.

- Wiring of connector

(Example)



In the above example, CN9 is connected with CN9 on 0 6 REAR1 board.

- Signal flow on the diagram

The following allow marks indicate the specified signal paths respectively.

➡ : Recording or EE signal path
⇨ : Playback signal ptah
➡ : Recording and Playback signal path

- Others

In regard of a board assembly whose circuit is composed of multilayered board patterns such 4- or 6-layered patterns, board patterns of the power supply lines and grounding lines are omitted in this section.

Note: For detail of each electrical part, refer to Section 6 "ELECTRICAL PARTS LIST" by it symbol number.

- SUB1 board

For the following models, a SUB1 board is mounted on the MAIN board.

BR-DV3000U : xxxx0022 to xxxx0321
BR-DV3000E : xxxx0025 to xxxx0224

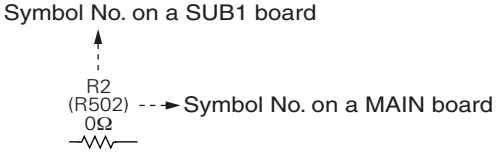
In the case of BR-DV3000 models released after the above models, the SUB1 board circuit is preinstalled on the MAIN board.

There is no difference in the circuit performance between the above mentioned models and those completed afterwards. However, a different Symbol No. is provided in each case.

For the Main board standard circuit 1/6 (P4-10), two Symbol Nos. are allocated to the SUB1 board parts so that they may be employed for any of the above mentioned models or for later ones.

Please note that a Symbol No., in parenthesis ( ), refers to the one for which a SUB1 board has been preinstalled on the Main board.

Examples:

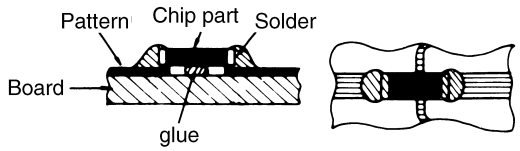


■ REPLACING SURFACE MOUNT "CHIP" COMPONENTS

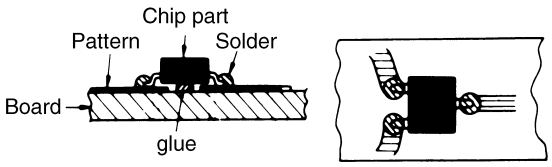
- Some resistors, shorting jumpers (0 resistance), ceramic capacitors, transistors, and diodes are chip parts. These chip parts cannot be reused after they are once removed.
- Chip resistors used in some circuits are of high precision type having little error in resistance.
  To demonstrate the full capacity of this set, place an order for proper parts referring to the diagrams and parts lists in the section 5.
- Soldering cautions:
  1) Do not apply heat for more than 3 seconds.
  2) Avoid using a rubbing stroke when soldering.
  3) Discard removed chips; do not reuse them.
  4) Supplementary cementing is not required.
  5) Use care not to scratch or otherwise damage the chips.

(1) Soldered condition of chip parts

- Resistors, capacitors, etc.

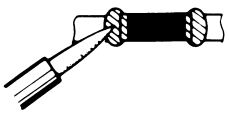


- Transistors, diodes, etc.

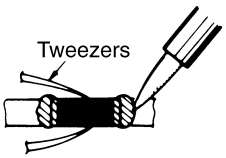


(2) Removing of chip parts

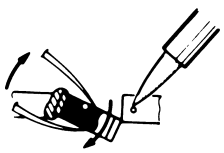
- Resistors, capacitors, etc.
  i) Melt solder at a side.



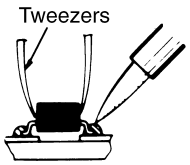
  ii) Holding the chip with tweezers, melt solder at the other side.



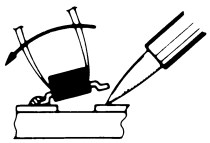
  iii) Take off the chip in twisting and sliding motion.



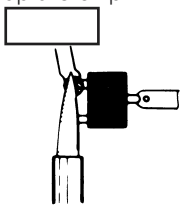
- Transistors, diodes, etc.
  i) Melt solder at the side of single lead.



  ii) Lift the unsolderd side upwards.



  iii) Simultaneously melt solder at two leads of the other side and pull up the chip.

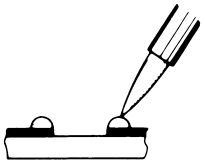


(3) Preheating and soldering of chip parts

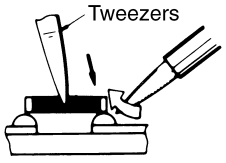
Except transistors, make sure to preheat all chip parts, capacitors in particular, with a hot wind of 150°C approx. (of a hair dryer, etc.) for 2 minutes just before soldering, and immediately solder by a soldering iron of approx. 30 W.

(4) Attaching of chip parts

  i) Heap up a proper amount of solder beforehand.



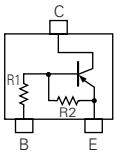
  ii) Holding down a new chip by tweezers, solder it to the board by a soldering iron to melt solder from its lower part to the upper part (in the direction shown by a big arrow).



■ CHIP PARTS PIN ARRANGEMENT

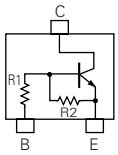
[1] Digital transistors

DTC 1 □□□□
① ②③



(Top view)

DTA 1 □□□□
DTB 1 □□□□
① ②③



(Top view)

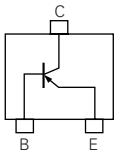
① Two digits show resistance of R1 in abbreviation.
- 43 : 4.7 kΩ
- 14 : 10 kΩ
- 24 : 22 kΩ
- 44 : 47 kΩ

② Roman letter show the resistive ratio between R1 and R2 in abbreviation.
- E : R2/R1 = 1/1
- Y : R2/R1 = 5/1
- W : R2/R1 = 2/1
- X : R2/R1 = 1/2
- T : R2 is opened.

③ Symbol the shape of resistor in abbreviation.

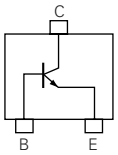
[2] Chip transistors and chip F.E.T.s

2SA □□□□
2SB □□□□



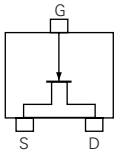
(Top view)

2SC □□□□
2SD □□□□



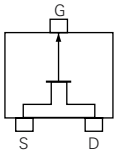
(Top view)

2SK □□□□



(Top view)

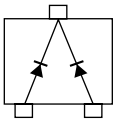
2SJ □□□□



(Top view)

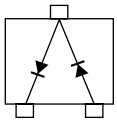
[3] Chip diodes

MA143A/MA742



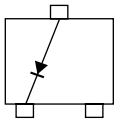
(Top view)

MA142WA



(Top view)

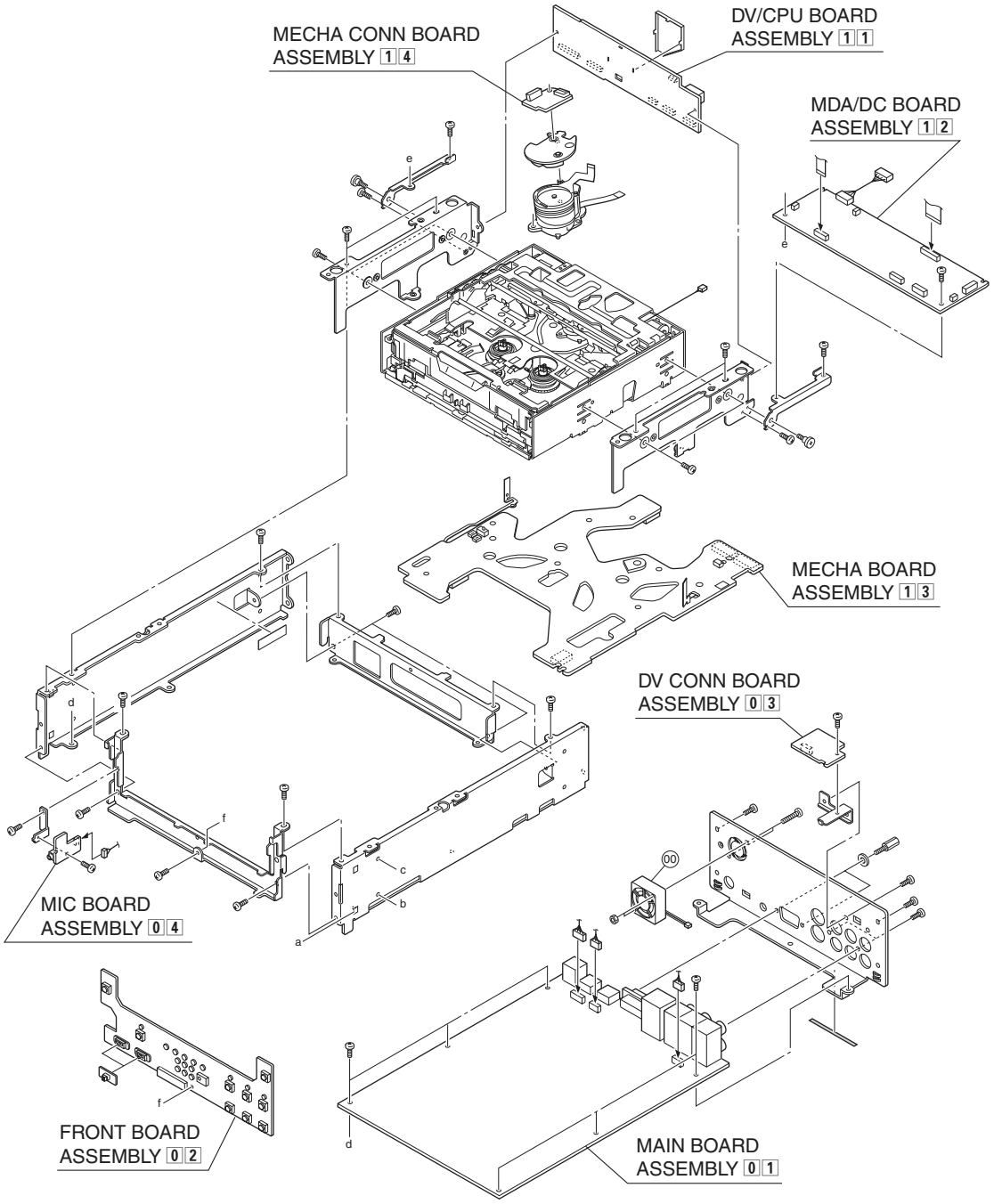
MA142A



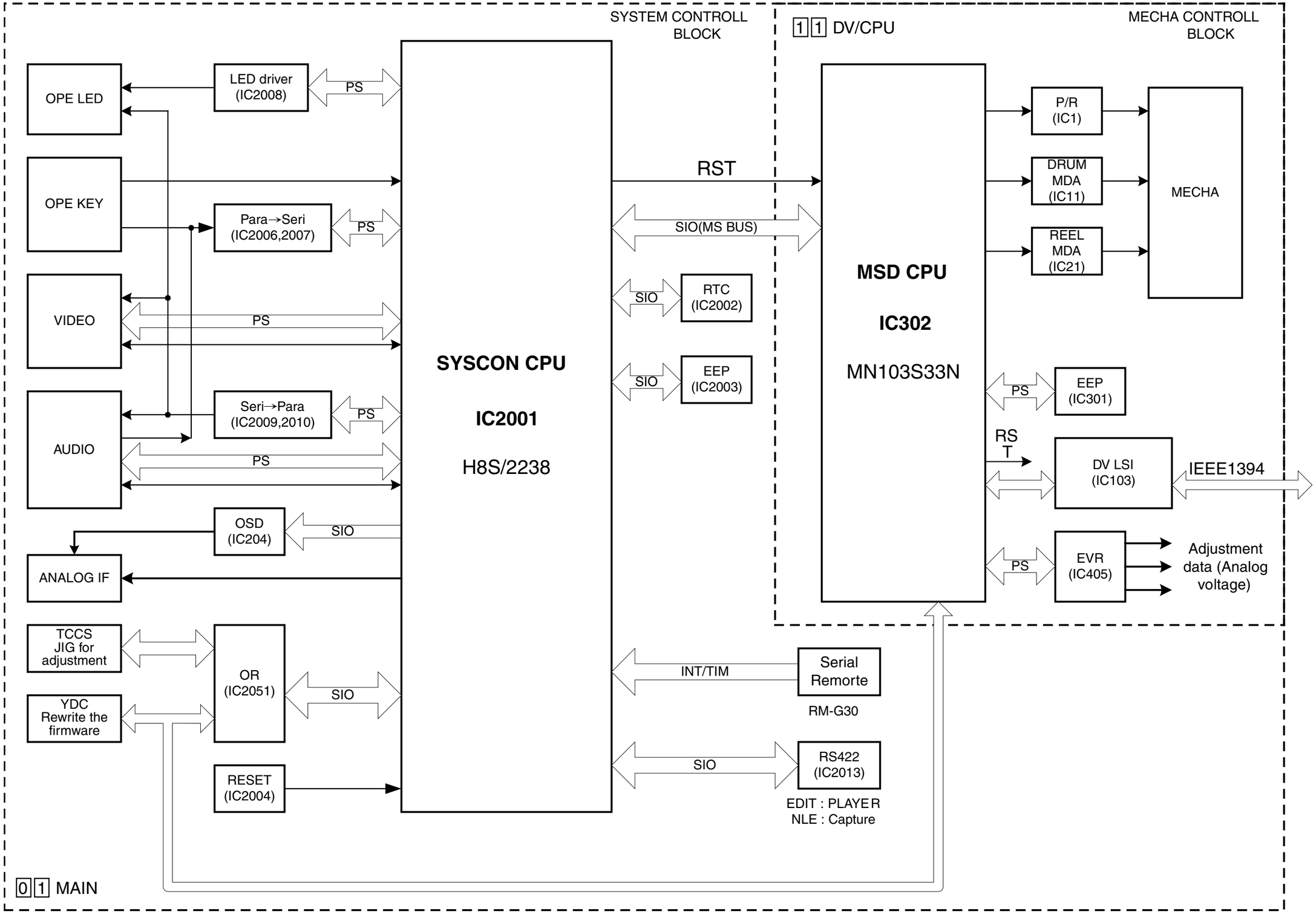
(Top view)

4.1 INDEX TO PAGES OF MAIN BOARDS AND CIRCUIT BOARD LOCATION

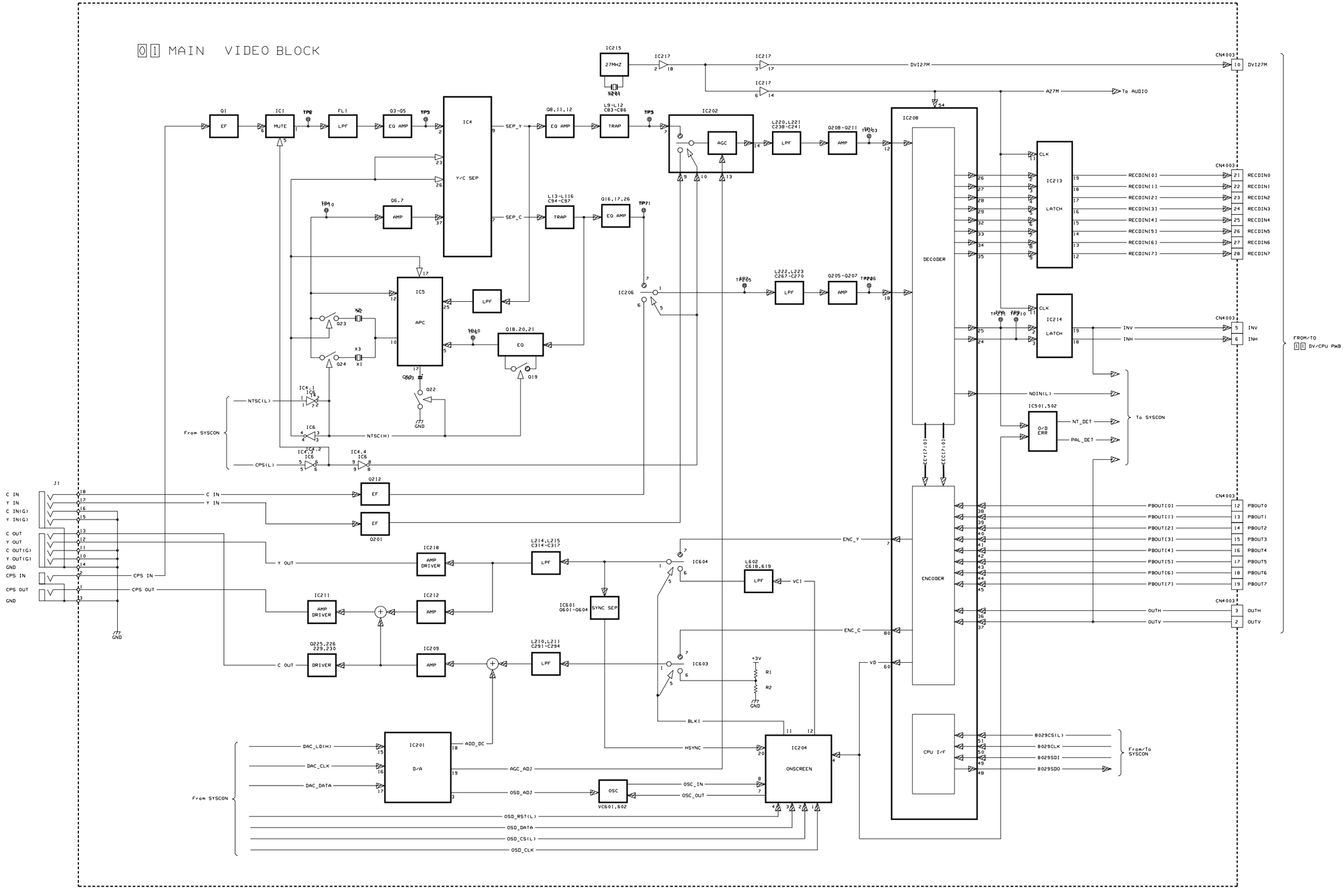
4.1.1 Circuit board location



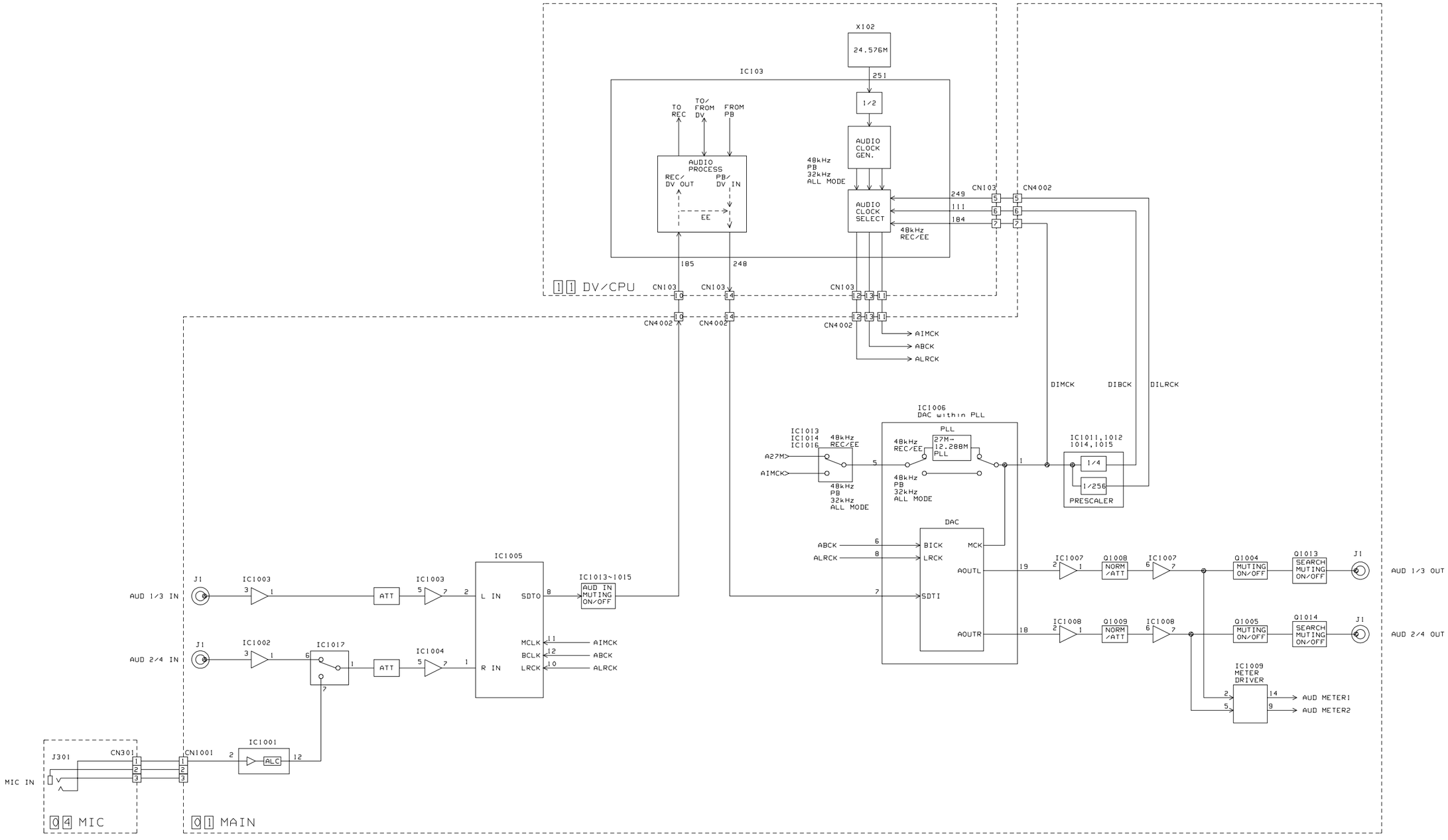
Board No.	Board Name	Page of diagram		
		Block diagram	Schematic diagram	Circuit board
01	MAIN	4-5, 4-6, 4-7	4-10 to 4-15	4-16, 4-17
02	FRONT	—	4-28	4-29
03	DV CONN	—	4-28	4-29
04	MIC	4-7	4-28	4-22
11	DV/CPU	4-5, 4-7	4-18 to 4-21	4-22
12	MDA/DC	—	4-24 to 4-27	4-23
13	MECHA	—	4-30	4-31
14	MECHA CONN	—	4-30	4-32


SYSTEM CONTROLL BLOCK
1 1 DV/CPU
MECHA CONTROLL BLOCK
OPE LED
LED driver (IC2008)
PS
OPE KEY
Para→Seri (IC2006,2007)
PS
VIDEO
PS
AUDIO
Seri→Para (IC2009,2010)
PS
PS
OSD (IC204)
SIO
ANALOG IF
TCCS JIG for adjustment
YDC Rewrite the firmware
OR (IC2051)
SIO
RESET (IC2004)
SYSCON CPU
IC2001
H8S/2238
RST
SIO(MS BUS)
SIO
RTC (IC2002)
SIO
EEP (IC2003)
INT/TIM
Serial Remorte
RM-G30
SIO
RS422 (IC2013)
EDIT : PLAYER
NLE : Capture
MSD CPU
IC302
MN103S33N
P/R (IC1)
DRUM MDA (IC11)
REEL MDA (IC21)
MECHA
PS
EEP (IC301)
RS T
DV LSI (IC103)
IEEE1394
PS
EVR (IC405)
Adjustment data (Analog voltage)
0 1 MAIN

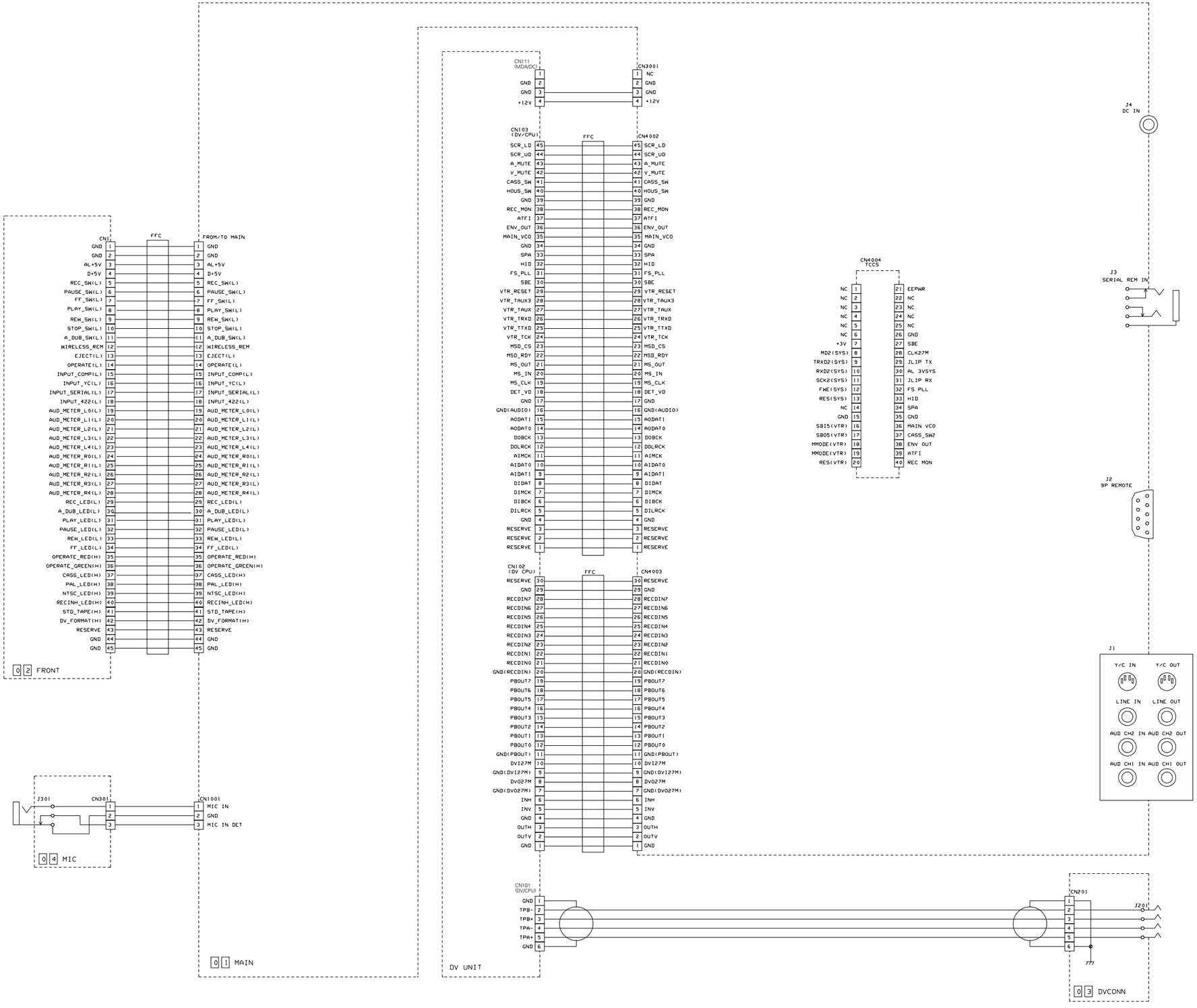
4.3 VIDEO BLOCK DIAGRAM



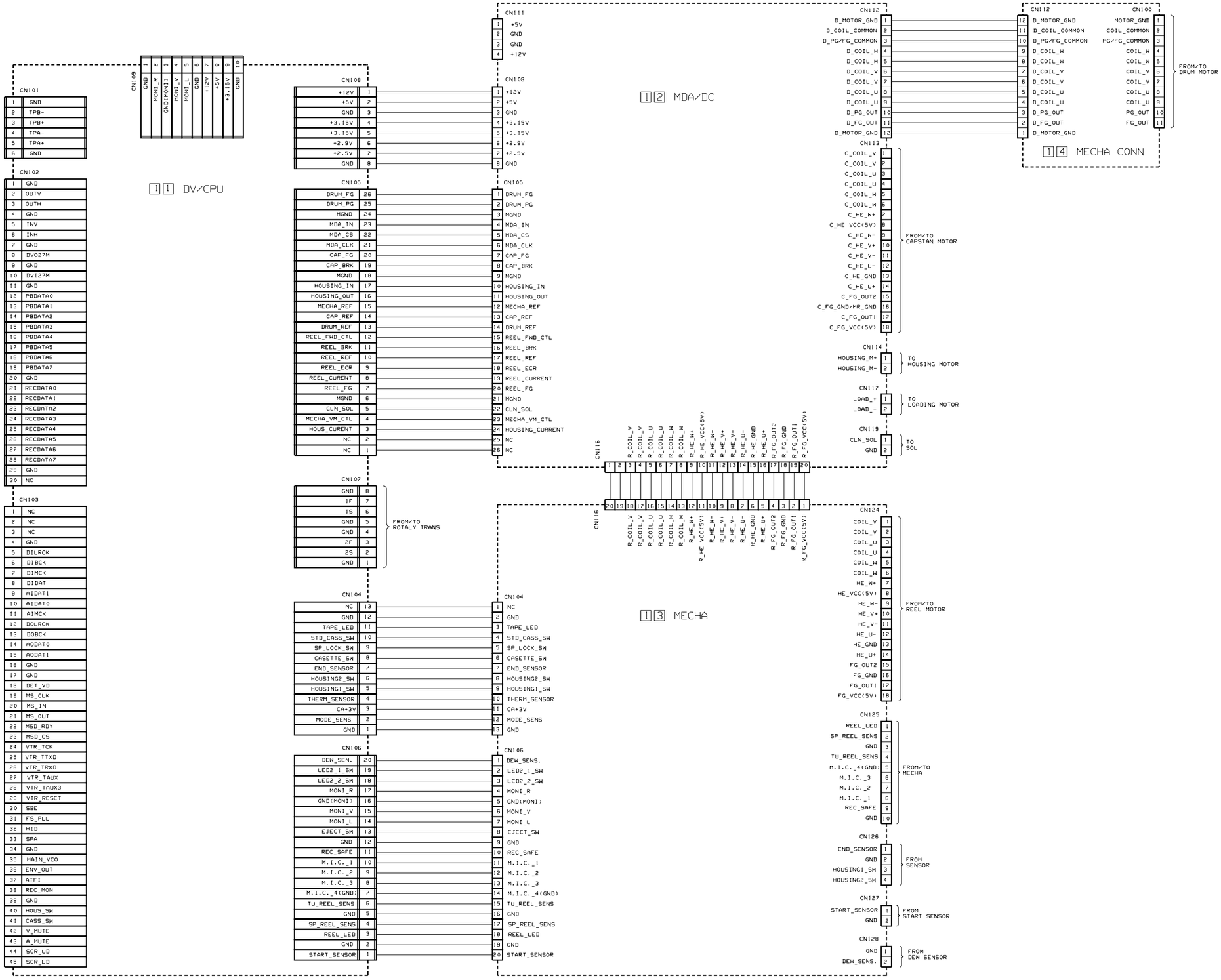
4.4 AUDIO BLOCK DIAGRAM



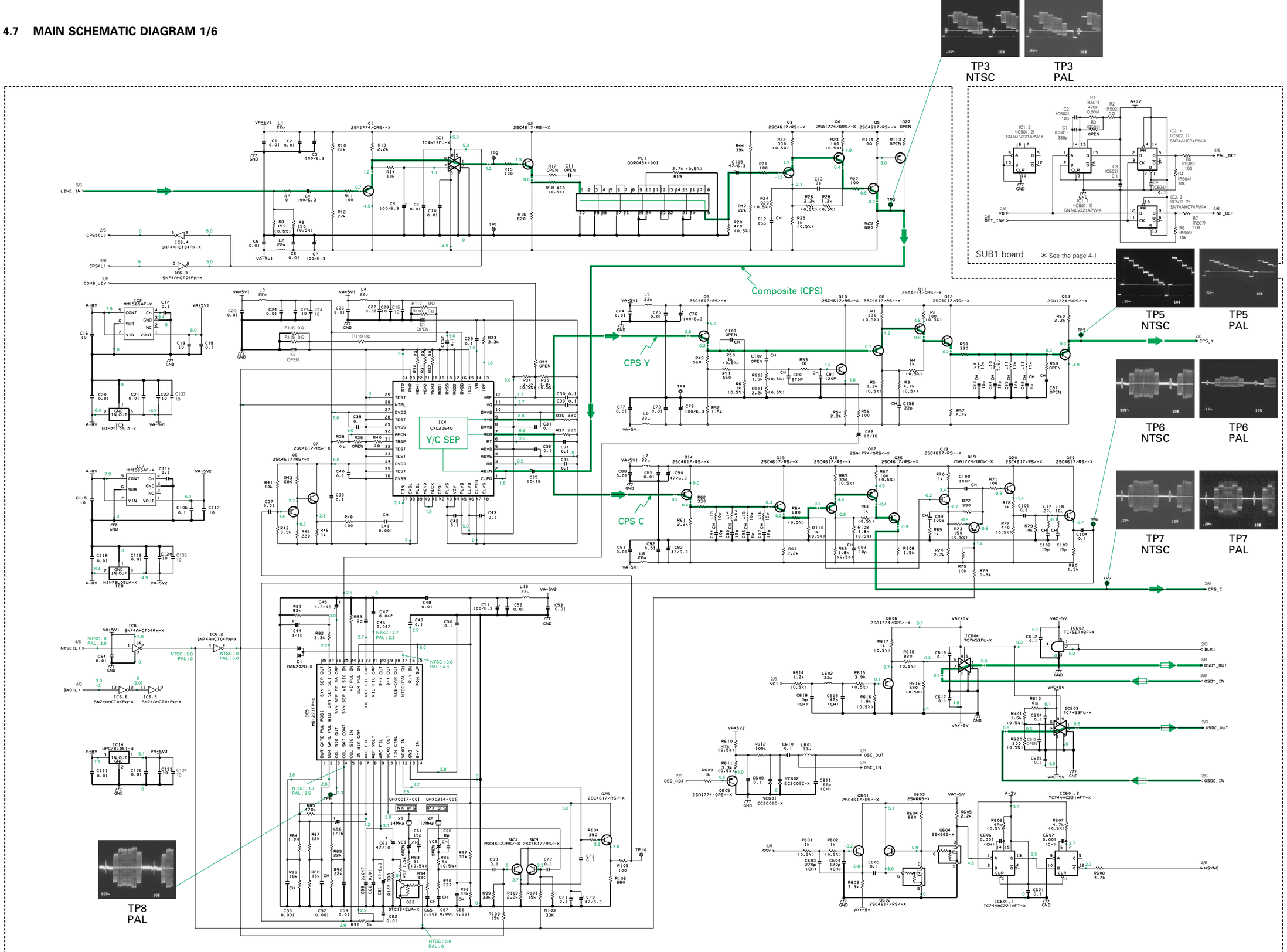
4.5 OVERALL WIRING DIAGRAM



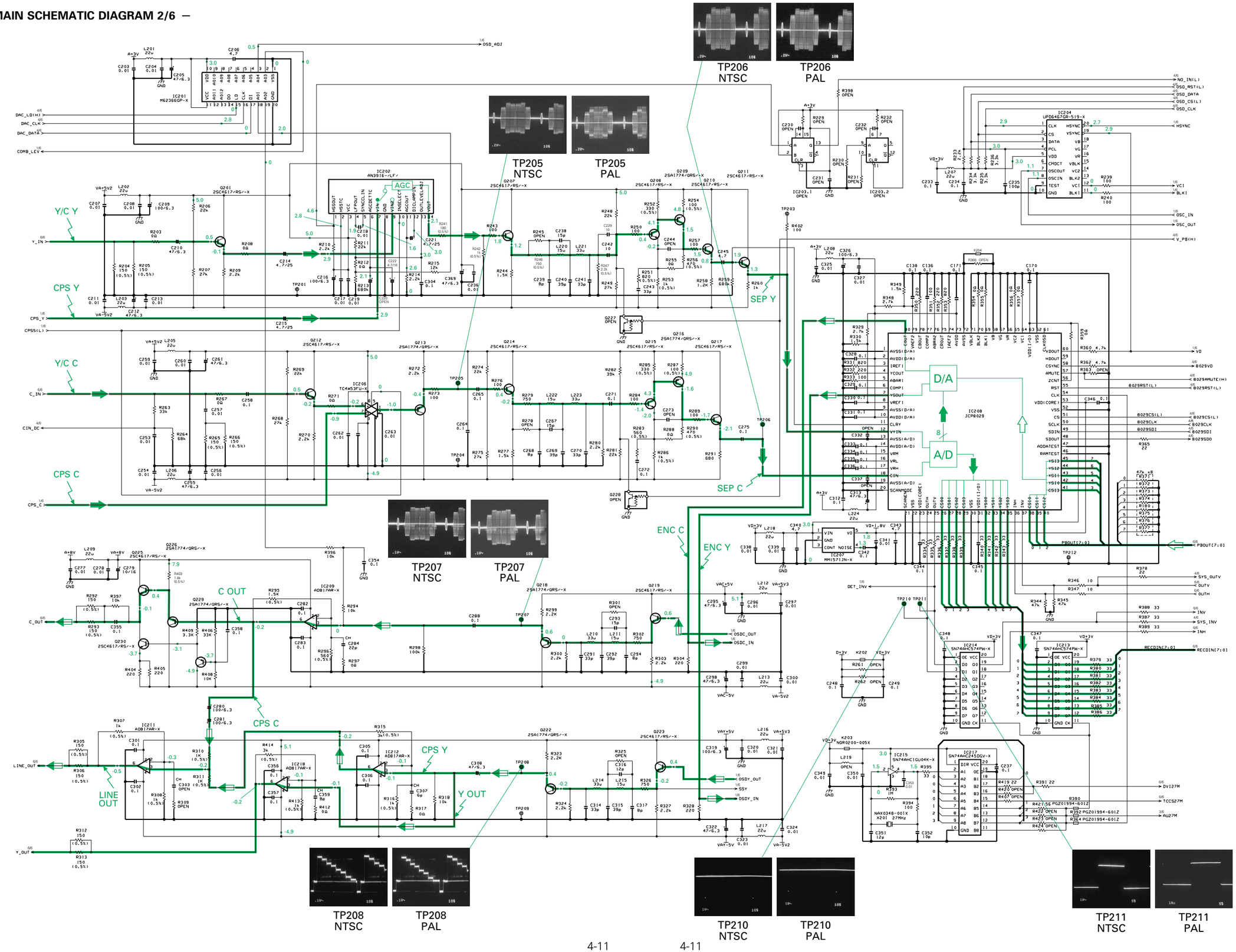
4.6 DV UNIT OVERALL WIRING DIAGRAM



4.7 MAIN SCHEMATIC DIAGRAM 1/6

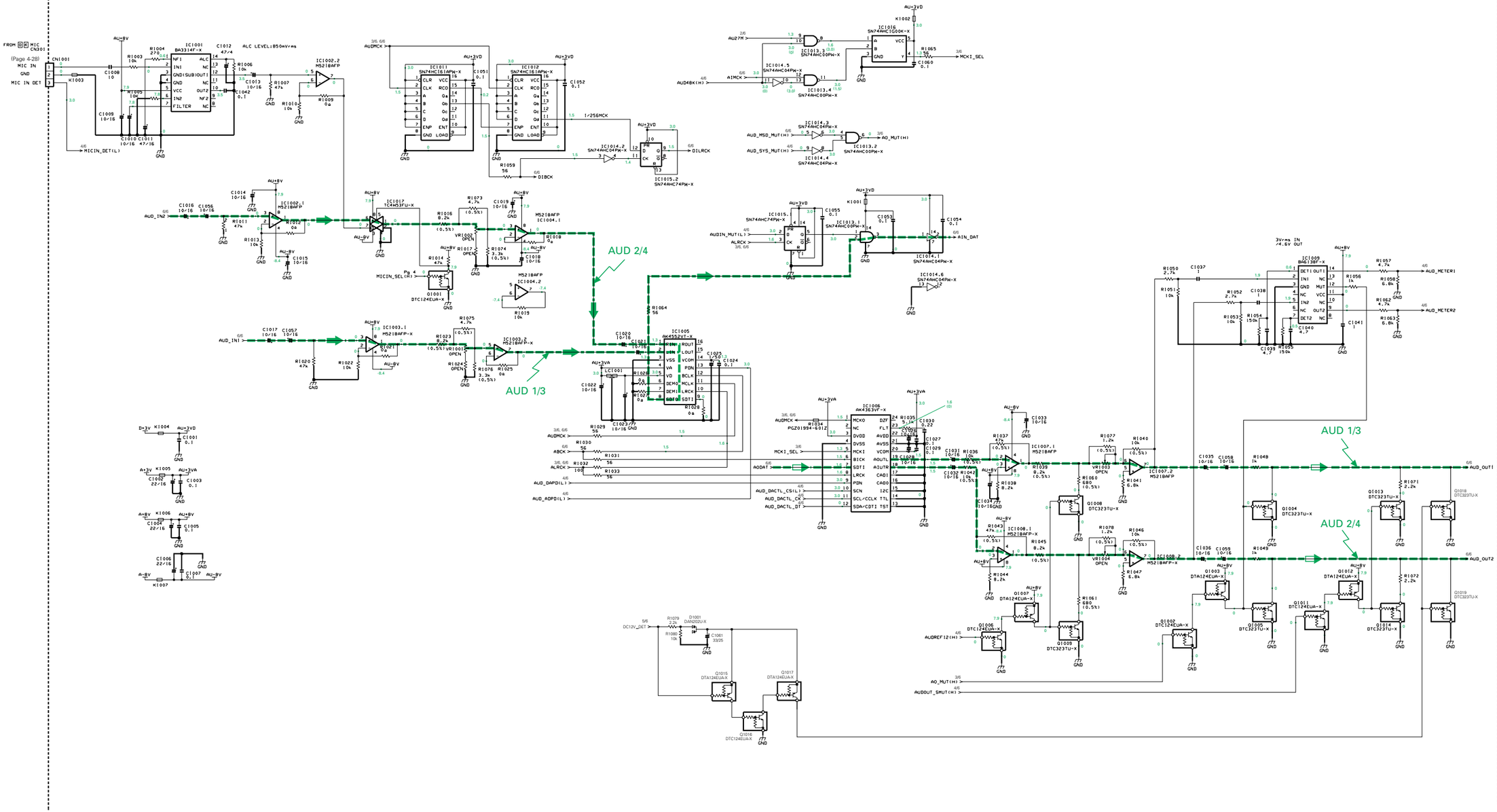


— MAIN SCHEMATIC DIAGRAM 2/6 —

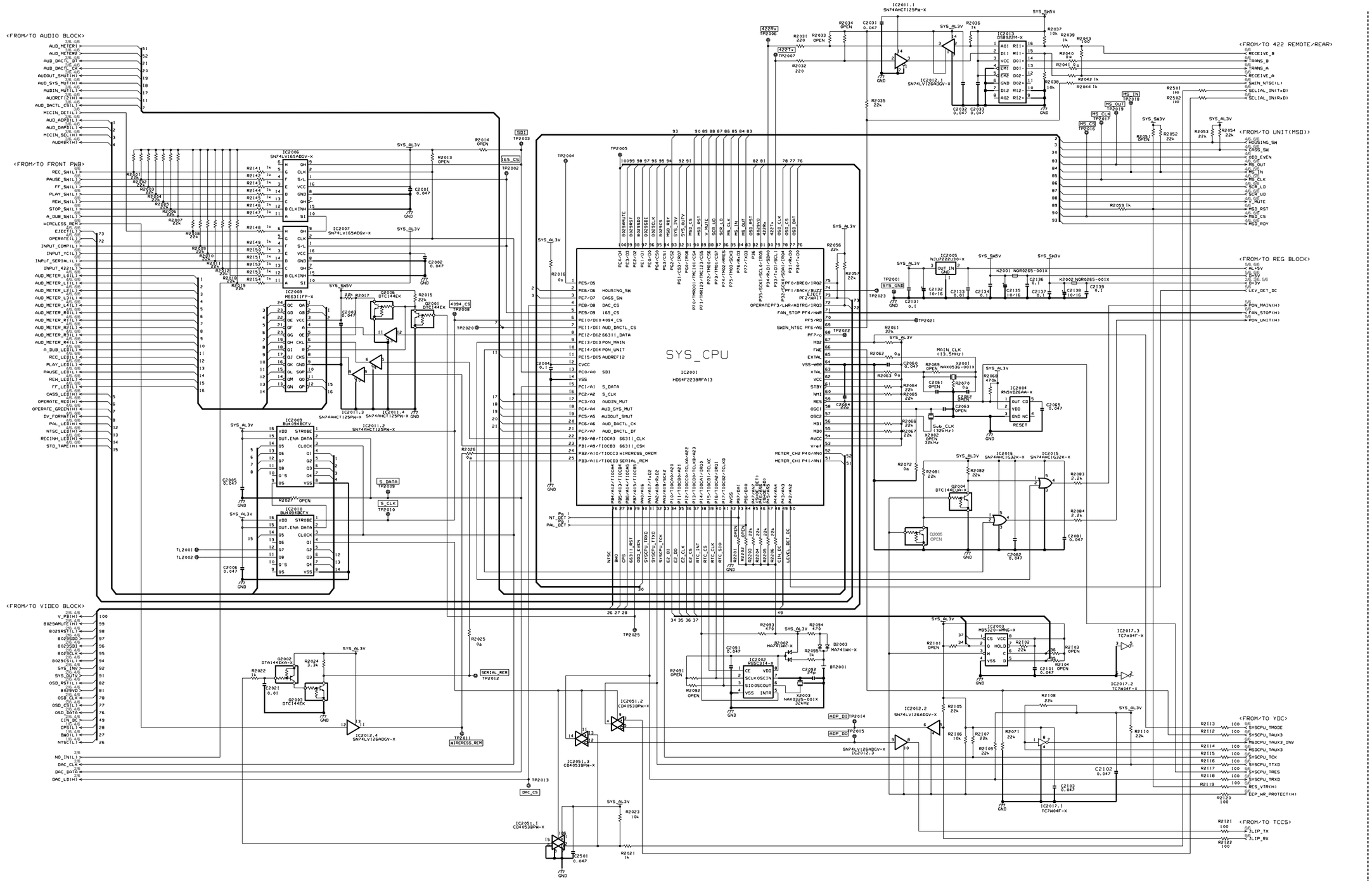


4-11

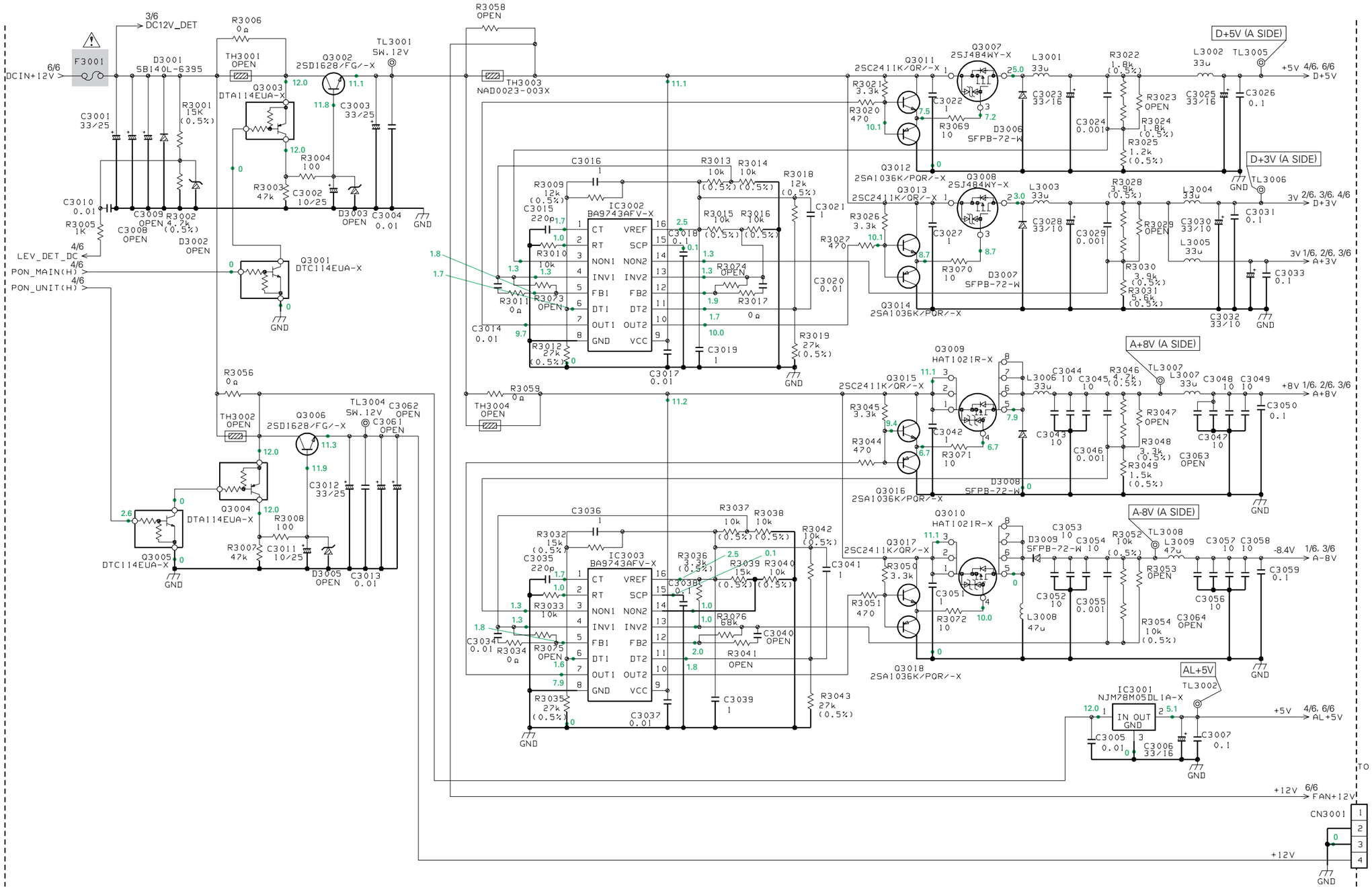
— MAIN SCHEMATIC DIAGRAM 3/6 —

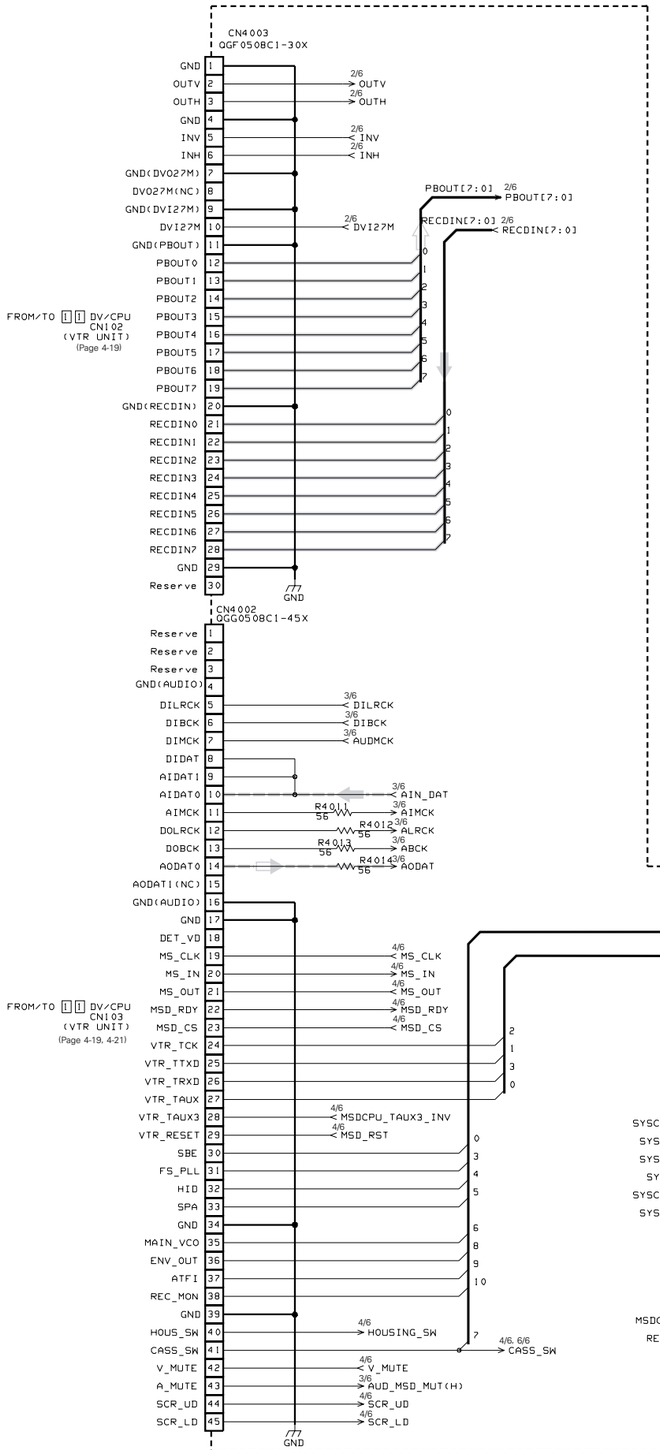


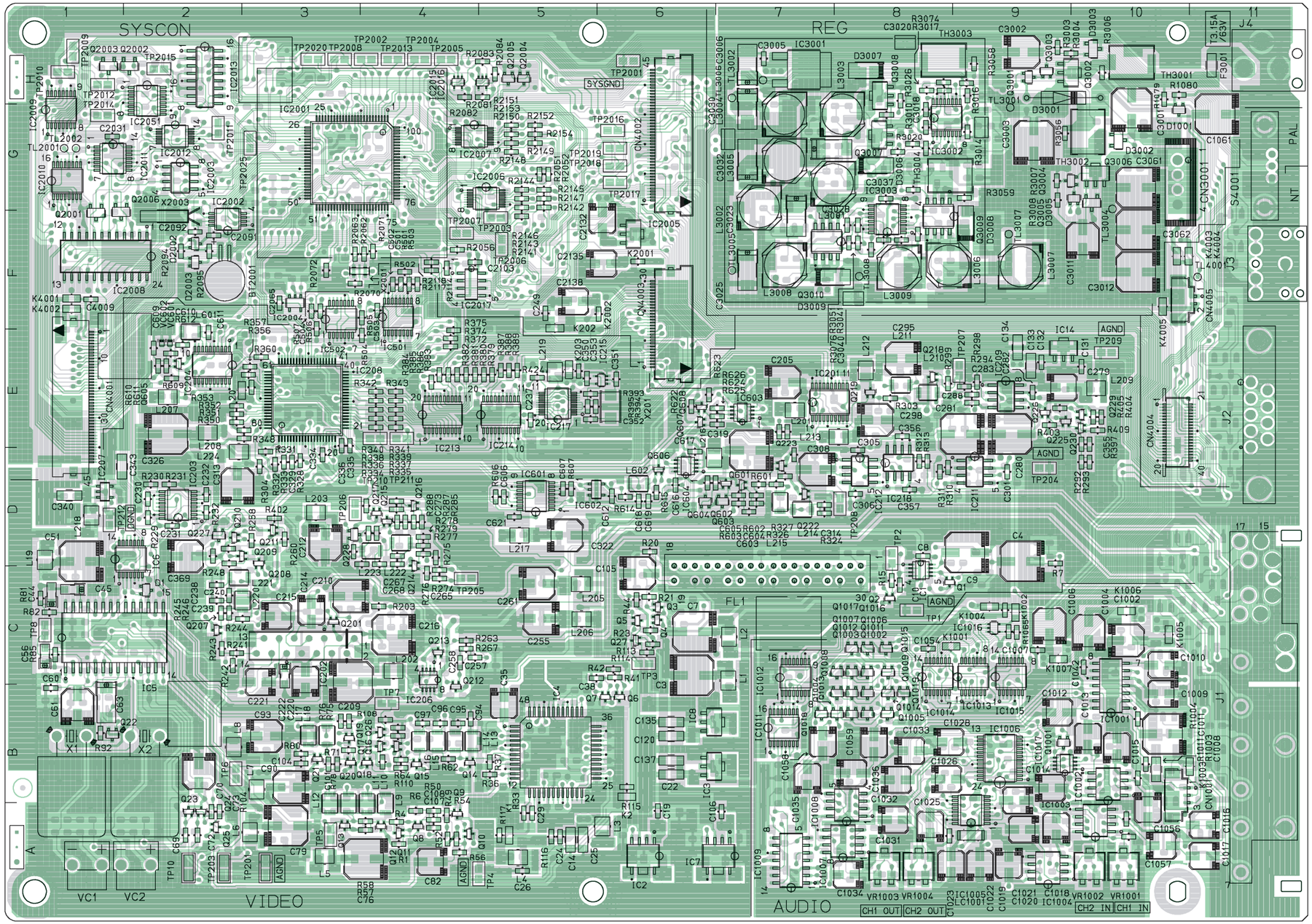
— MAIN SCHEMATIC DIAGRAM 4/6 —



— MAIN SCHEMATIC DIAGRAM 5/6 —




CN4003
QGF050BC1-30X
GND 1
OUTV 2
OUTH 3
GND 4
INV 5
INH 6
GND(DV027M) 7
DV027M(NC) 8
GND(DVI27M) 9
DVI27M 10
GND(PBOUT) 11
PBOUT0 12
PBOUT1 13
PBOUT2 14
PBOUT3 15
PBOUT4 16
PBOUT5 17
PBOUT6 18
PBOUT7 19
GND(RECDIN) 20
RECDIN0 21
RECDIN1 22
RECDIN2 23
RECDIN3 24
RECDIN4 25
RECDIN5 26
RECDIN6 27
RECDIN7 28
GND 29
Reserve 30
2/6 OUTV
2/6 OUTH
2/6 INV
2/6 INH
2/6 DVI27M
PBOUT[7:0] 2/6 PBOUT[7:0]
RECDIN[7:0] 2/6 RECDIN[7:0]
FROM/TO 11 DV/CPU CN102 (VTR UNIT) (Page 4-19)
CN4002
QGG050BC1-45X
Reserve 1
Reserve 2
Reserve 3
GND(AUDIO) 4
DILRCK 5
DIBCK 6
DIMCK 7
DIDAT 8
AIDAT1 9
AIDAT0 10
AIMCK 11
DOLRCK 12
DOBCK 13
AODAT0 14
AODAT1(NC) 15
GND(AUDIO) 16
GND 17
DET_VD 18
MS_CLK 19
MS_IN 20
MS_OUT 21
MSD_RDY 22
MSD_CS 23
VTR_TCK 24
VTR_TTXD 25
VTR_TRXD 26
VTR_TAUX 27
VTR_TAUX3 28
VTR_RESET 29
SBE 30
FS_PLL 31
HID 32
SPA 33
GND 34
MAIN_VCO 35
ENV_OUT 36
ATFI 37
REC_MON 38
GND 39
HOUS_SW 40
CASS_SW 41
V_MUTE 42
A_MUTE 43
SCR_UD 44
SCR_LD 45
3/6 DILRCK
3/6 DIBCK
3/6 AUDMCK
3/6 AIN_DAT
R4011 56 3/6 AIMCK
R4012 56 3/6 ALRCK
R4013 56 3/6 ABCK
R4014 56 3/6 AODAT
FROM/TO 11 DV/CPU CN103 (VTR UNIT) (Page 4-19, 4-21)
4/6 MS_CLK
4/6 MS_IN
4/6 MS_OUT
4/6 MSD_RDY
4/6 MSD_CS
4/6 MSDCPU_TAUX3_INV
4/6 MSD_RST
4/6 HOUSING_SW
4/6, 6/6 CASS_SW
4/6 V_MUTE
3/6 AUD_MSD_MUT(H)
4/6 SCR_UD
4/6 SCR_LD
CN4001
QGF050BF1-45X
GND 1
GND 2
AL+5V 3
D+5V 4
REC_SW(L) 5
PAUSE_SW(L) 6
FF_SW(L) 7
PLAY_SW(L) 8
REW_SW(L) 9
STOP_SW(L) 10
A_DUB_SW(L) 11
WIRELESS_REM 12
EJECT(L) 13
OPERATE(L) 14
INPUT_COMP(L) 15
INPUT_YC(L) 16
INPUT_SERIAL(L) 17
INPUT_422(L) 18
AUD_METER_L0(L) 19
AUD_METER_L1(L) 20
AUD_METER_L2(L) 21
AUD_METER_L3(L) 22
AUD_METER_L4(L) 23
AUD_METER_R0(L) 24
AUD_METER_R1(L) 25
AUD_METER_R2(L) 26
AUD_METER_R3(L) 27
AUD_METER_R4(L) 28
REC_LED(L) 29
A_DUB_LED(L) 30
PLAY_LED(L) 31
PAUSE_LED(L) 32
REW_LED(L) 33
FF_LED(L) 34
OPERATE_RED(H) 35
OPERATE_GREEN(H) 36
CASS_LED(H) 37
PAL_LED(H) 38
NTSC_LED(H) 39
RECINH_LED(H) 40
STD_TAPE(H) 41
DV_FORMAT(H) 42
NC 43
GND 44
GND 45
K4001
K4002
4/6, 5/6 AL+5V
4/6, 5/6, 6/6 D+5V
C4009 0.01
C4010 0.01
C4011 0.01
C4012 0.01
FROM/TO 02 FRONT CN1 (Page 4-28)
CN4004
QGB0502L1-40X
NC 1
TRXD2(CAM) 2
NC 3
NC 4
NC 5
NC 6
+3V 7
MD2(SYS) 8
TRXD2(SYS) 9
RXD2(SYS) 10
SCK2(SYS) 11
FWE(SYS) 12
RES(SYS) 13
NC 14
GND 15
SBI5(VTR) MSD_TAUX 16
SBO5(VTR) MSD_TTXD 17
MMODE(VTR) MSD_TCK 18
MMODE(VTR) MSD_TAUX3 19
RES(VTR) MSD_RESET 20
EEPWR 21
NC 22
NC 23
NC 24
NC 25
GND 26
SBE 27
CLK27M 28
JLIP_TX 29
AL_3VSYS 30
JLIP_RX 31
FS_PLL 32
HID 33
SPA 34
GND 35
MAIN_VCO 36
CASS_SW2 37
ENV_OUT 38
ATFI 39
REC_MON 40
SYS_AL3V
SYSCPU_TMODE 4/6
SYSCPU_TRXD 4/6
SYSCPU_TTXD 4/6
SYSCPU_TCK 4/6
SYSCPU_TAUX3 4/6
SYSCPU_TRES 4/6
MSDCPU_TAUX3 4/6
RES_VTR(H) 4/6
4/6 EEP_WR_PROTECT(H)
2/6 TCCS27M
4/6 JLIP_TX
4/6, 6/6 SYS_AL3V
4/6 JLIP_RX
FROM/TO YDC/TCCS
4/6, 5/6, 6/6 D+5V
K4003
5/6 FAN+12V
K4004 OPEN
4/6 FAN_STOP(H)
TL4001 FAN STOP
GND
CN4005
K4005
FAN+12V
GND
TO FAN MOTOR
J4
QNA0033-001
5/6 DCIN+12V
1/6, 2/6, 3/6, 4/6, 5/6, 6/6 GND
DC+12V
GND
S4001
QSW0269-002
4/6 SWIN_NTSC(L)
J3
QNS0037-001
SELIAL IN(RxD)
GND
SELIAL IN(TxD)
4/6 SELIAL_IN(RxD)
4/6 SELIAL_IN(TxD)
J2
QNZ0475-001
4/6 RECEIVE_A
4/6 RECEIVE_B
4/6 TRANS_B
4/6 TRANS_A
R4001 0Ω
R4002 0Ω
R4003 0Ω
R4004 0Ω
GND
GND
GND
RECEIVE(-)
RECEIVE(+)
TRANS(+)
TRANS(-)
GND
GND
D4029
D4031
D4021 D4025
D4023 D4027
D4022 D4026
D4024 D4028
MA3091/M/-X
J1
QNZ0593-001
2/6 Y_IN
2/6 C_IN
2/6 Y_OUT
2/6 C_OUT
1/6 LINE IN
2/6 LINE_OUT
C IN
Y IN
C IN(G)
Y IN(G)
GND
C OUT
Y OUT
C OUT(G)
Y OUT(G)
GND
CPS IN
CPS OUT
A2 IN
A2 OUT
A1 IN
A1 OUT
NC
D4001 D4005 D4009
D4002 D4003 D4007 D4011
D4004 D4006 D4010
D4004 D400B D4012
MA3091/M/-X
3/6 AUD_IN1
3/6 AUD_IN2
3/6 AUD_OUT1
3/6 AUD_OUT2
L4001 10u
L4002 10u
L4003 10u
L4004 10u
C4001 C4003 220p 220p
C4002 C4004 220p 220p
C4005 C4007 220p 220p
C4006 C400B 220p 220p
D4013 D4017
D4015 D4019
D4014 D4018
D4016 D4020
MA3160/M/-X
GND
REAR PANEL
0 1 MAIN



● **ADDRESS TABLE OF BOARD PARTS**

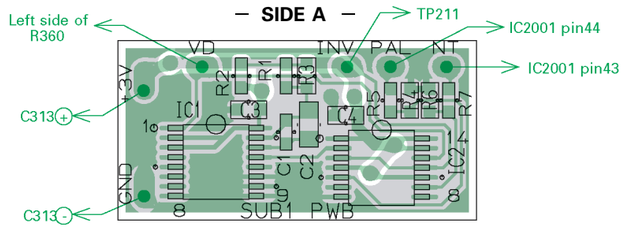
Each address may have an address error by one interval.

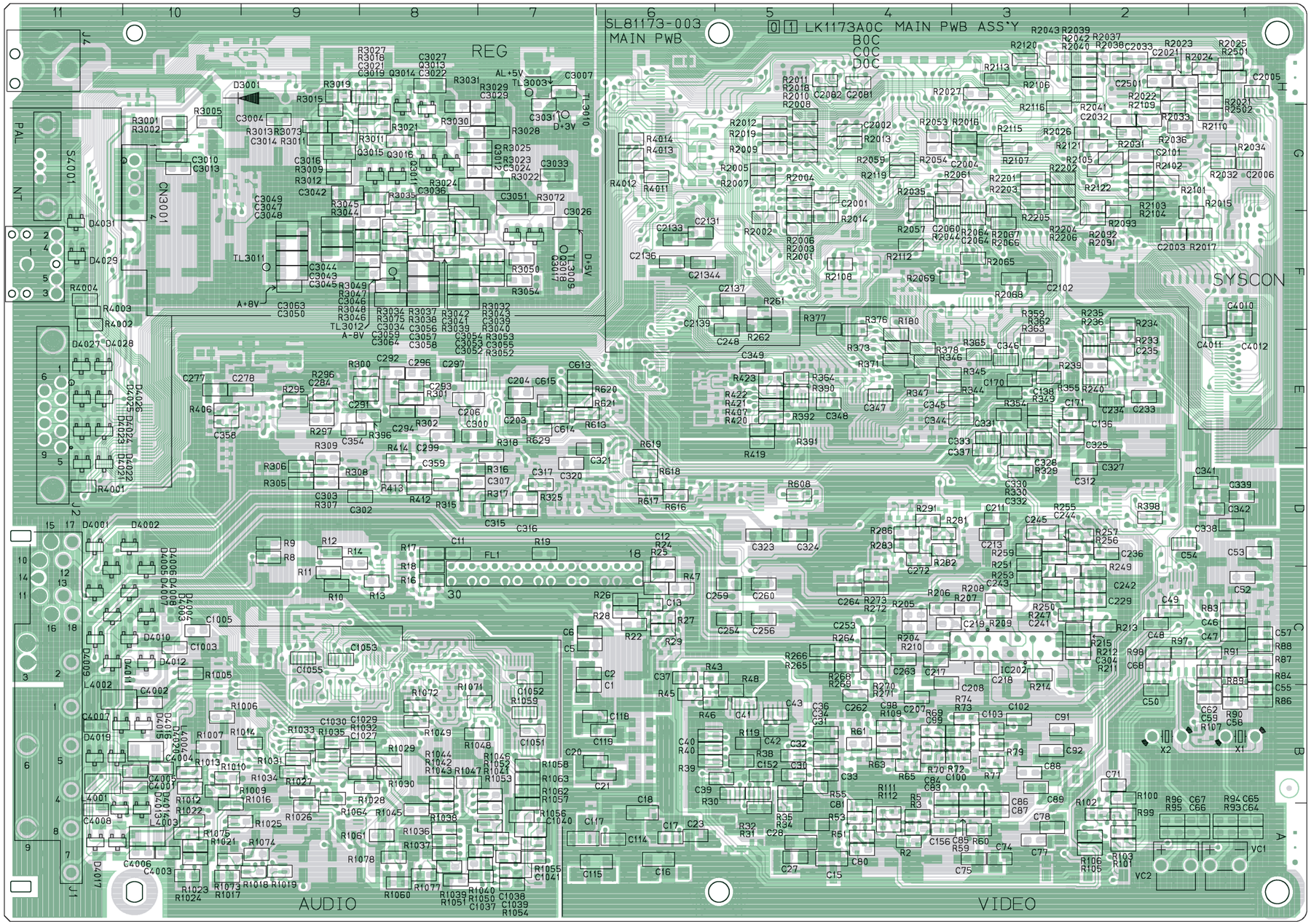
Side — A-1C — Y axis / X axis

IC1	A-8D	Q605	A-1E	R31	B-5A	R248	A-2D	R379	A-4E	R1052	B-7A
IC2	A-5A	Q606	A-6D	R32	B-5B	R249	B-2D	R380	A-4E	R1053	B-7A
IC3	A-6B	Q607	A-6E	R33	A-4A	R250	B-2D	R381	A-4E	R1054	B-7A
IC4	A-5B	Q608	A-6E	R34	B-4B	R251	B-2D	R382	A-4E	R1055	B-7A
IC5	A-1C	Q1001	A-9B	R35	B-4B	R252	A-2D	R383	A-4E	R1056	B-7A
IC6	A-1D	Q1002	A-8B	R36	A-4B	R253	B-2D	R384	A-4E	R1057	B-7B
IC7	A-6A	Q1003	A-7B	R37	A-4B	R254	A-2D	R385	A-4E	R1058	B-7B
IC8	A-6B	Q1004	A-7B	R38	B-5B	R255	B-2D	R386	A-4E	R1059	B-7B
IC14	A-9E	Q1005	A-8B	R39	B-5B	R256	B-2D	R387	A-4E	R1060	B-8A
IC201	A-7E	Q1006	A-8C	R40	B-5B	R257	B-2D	R388	A-4E	R1061	B-8A
IC202	A-9C	Q1007	A-7C	R41	A-5C	R258	A-2D	R389	A-4E	R1062	B-7B
IC203	A-1D	Q1008	A-7C	R42	A-5C	R259	B-2D	R390	B-4E	R1063	B-7B
IC204	A-2E	Q1009	A-8C	R43	B-5C	R260	A-2D	R391	B-4E	R1064	B-9B
IC206	A-4C	Q1011	A-8B	R44	A-5C	R261	B-5F	R392	B-4E	R1065	A-9C
IC207	A-1D	Q1012	A-7B	R45	B-5B	R262	B-5F	R393	A-5E	R1071	B-7B
IC208	A-2E	Q1013	A-7B	R46	B-5B	R263	A-4C	R394	A-5E	R1072	B-8B
IC209	A-9E	Q1014	A-8B	R47	B-5C	R264	B-4C	R395	A-5E	R1073	B-9A
IC211	A-8D	Q1015	A-8C	R48	B-5C	R265	B-4C	R396	B-8E	R1074	B-9A
IC212	A-7D	Q1016	A-8C	R49	A-4A	R266	B-4C	R397	A-10E	R1075	B-10A
IC213	A-4E	Q1017	A-7C	R50	A-4A	R267	A-4C	R398	B-1D	R1076	A-10A
IC214	A-4E	Q1018	A-7B	R51	B-4A	R268	B-4C	R402	A-2D	R1077	B-8A
IC215	A-5E	Q1019	A-8B	R52	A-4A	R269	B-4C	R403	A-9E	R1078	B-8A
IC217	A-5E	Q2001	A-1G	R53	B-4A	R270	B-4C	R404	A-10E	R1079	A-10H
IC218	A-8D	Q2002	A-1H	R54	A-4A	R271	B-4C	R405	A-10E	R1080	A-10H
IC501	A-3F	Q2003	A-1H	R55	B-4B	R272	B-4C	R406	B-9E	R2001	B-4G
IC502	A-3F	Q2004	A-4H	R56	A-4A	R273	B-4D	R407	B-5E	R2002	B-5G
IC601	A-5D	Q2005	A-4H	R57	A-3A	R274	A-4D	R408	A-9E	R2003	B-4G
IC602	A-5D	Q2006	A-1G	R58	A-3A	R275	A-4D	R409	A-10E	R2004	B-4G
IC603	A-6E	Q2007	A-9H	R59	B-3A	R276	A-4D	R412	B-8D	R2005	B-5G
IC604	A-6D	Q3002	A-9H	R60	B-3A	R277	A-3D	R413	B-8D	R2006	B-4G
IC1001	A-10C	Q3003	A-9H	R61	B-4B	R278	A-3D	R414	B-8E	R2007	B-5G
IC1002	A-10B	Q3004	A-9G	R62	A-4B	R279	A-3D	R419	B-5E	R2008	B-4G
IC1003	A-10A	Q3005	A-9G	R63	B-3B	R280	A-3D	R420	B-5E	R2009	B-5G
IC1004	A-9A	Q3006	A-10G	R64	A-3B	R281	B-3D	R421	B-5E	R2010	B-4G
IC1005	A-8A	Q3007	A-8G	R65	B-3B	R282	B-3D	R422	B-8E	R2011	B-4H
IC1006	A-9B	Q3008	A-8H	R66	A-3B	R283	B-3D	R423	B-5E	R2012	B-5G
IC1007	A-7A	Q3009	A-8G	R67	A-3B	R284	A-3D	R424	A-5E	R2013	B-4G
IC1008	A-7B	Q3010	A-7F	R68	A-3B	R285	A-3D	R501	A-3F	R2014	B-4G
IC1009	A-7A	Q3011	B-8G	R69	B-3B	R286	B-3D	R502	A-3F	R2015	B-1G
IC1011	A-7B	Q3012	B-7G	R70	B-3B	R287	A-3D	R503	A-3F	R2016	B-3G
IC1012	A-7C	Q3013	B-8H	R71	A-3B	R288	A-3D	R504	A-3F	R2017	B-1F
IC1013	A-8C	Q3014	B-8H	R72	B-3B	R289	A-3D	R505	A-3F	R2018	B-4G
IC1014	A-8C	Q3015	B-8G	R73	B-3B	R290	A-3D	R506	A-3F	R2019	B-5G
IC1015	A-9C	Q3016	B-8G	R74	B-3B	R291	B-3D	R507	A-2F	R2021	B-1H
IC1016	A-9C	Q3017	B-7F	R75	A-3B	R292	A-9E	R601	A-7D	R2022	B-1H
IC1017	A-9B	Q3018	B-7F	R76	A-3B	R293	A-10E	R602	A-7D	R2023	B-1H
IC2001	A-3G			R77	B-3B	R294	A-8E	R603	A-6D	R2024	B-1H
IC2002	A-2G	D1	A-1C	R78	A-3B	R295	B-9E	R604	A-6D	R2025	B-1H
IC2003	A-1G	D1001	A-10H	R79	B-3B	R296	B-9E	R605	A-6D	R2026	B-2G
IC2004	A-2F	D2002	A-1F	R80	A-2B	R297	B-9E	R606	A-4D	R2027	B-3H
IC2005	A-5F	D2003	A-1F	R81	A-1C	R298	A-9E	R607	A-5D	R2031	B-1G
IC2006	A-4G	D3001	A-10H	R82	A-1C	R299	A-8E	R608	B-6D	R2032	B-1G
IC2007	A-4G	D3002	A-10G	R83	B-1C	R300	B-8E	R609	A-4E	R2033	B-1G
IC2008	A-1F	D3003	A-10H	R84	B-1C	R301	B-8E	R610	A-1E	R2034	B-1G
IC2009	A-1H	D3005	A-10G	R85	A-1C	R302	B-8E	R611	A-1E	R2035	B-3G
IC2010	A-1G	D3006	A-8G	R86	B-1B	R303	A-8E	R612	A-1E	R2036	B-1G
IC2011	A-1G	D3007	A-7H	R87	B-1C	R304	A-2D	R613	B-6E	R2037	B-1H
IC2012	A-1G	D3008	A-8G	R88	B-1C	R305	B-9D	R614	A-5D	R2038	B-1H
IC2013	A-2H	D3009	A-7F	R89	B-1C	R306	B-9D	R615	A-6D	R2039	B-2H
IC2015	A-4H	D4001	B-11D	R90	B-1C	R307	B-9D	R616	B-5D	R2040	B-2H
IC2016	A-4H	D4002	B-10D	R91	B-1C	R308	B-8D	R617	B-6D	R2041	B-2H
IC2017	A-4H	D4003	B-11C	R92	A-1B	R309	B-8E	R618	A-6D	R2042	B-2H
IC2051	A-1H	D4004	B-10C	R93	B-1A	R310	A-8D	R619	B-6E	R2043	B-2H
IC3001	A-7H	D4005	B-11D	R94	B-1A	R311	A-8D	R620	B-6E	R2044	B-3G
IC3002	A-8H	D4006	B-10D	R95	B-1A	R312	A-8E	R621	B-6E	R2051	A-5G
IC3003	A-8G	D4007	B-11C	R96	B-1A	R313	A-8E	R622	A-6E	R2052	A-5G
		D4008	B-10C	R97	B-1C	R315	B-7D	R623	A-6E	R2053	B-3G
Q1	A-8C	D4009	B-11C	R98	B-1C	R316	B-7D	R624	A-6E	R2054	B-3G
Q2	A-8C	D4010	B-10C	R99	B-1A	R317	B-7D	R625	A-6E	R2056	A-4F
Q3	A-6C	D4011	B-11C	R100	B-1B	R318	B-7E	R626	A-6E	R2057	B-3G
Q4	A-6C	D4012	B-10C	R101	B-1A	R323	A-7E	R627	A-7E	R2059	B-3G
Q5	A-5C	D4013	B-10A	R102	B-2A	R324	A-7D	R628	A-7E	R2061	B-3G
Q6	A-5B	D4014	B-10A	R103	B-1A	R325	B-7D	R629	B-7E	R2062	A-3F
Q7	A-5B	D4015	B-10B	R104	A-2A	R326	A-7D	R1003	A-10B	R2063	A-3F
Q8	A-3A	D4016	B-10B	R105	B-2A	R327	A-7D	R1004	A-10B	R2064	B-3G
Q9	A-4A	D4017	B-11A	R106	B-2A	R328	A-2E	R1005	B-10C	R2065	B-3F
Q10	A-4A	D4018	B-10A	R107	B-1B	R329	B-2E	R1006	B-10B	R2066	B-2G
Q11	A-3A	D4019	B-11B	R108	A-3B	R330	B-2E	R1007	B-10B	R2067	B-2G
Q12	A-3A	D4020	B-10B	R109	B-3B	R331	A-2E	R1009	B-10B	R2068	B-2F
Q13	A-3A	D4021	B-11D	R110	A-3B	R332	A-2D	R1010	B-9B	R2069	B-3F
Q14	A-4B	D4022	B-11D	R111	B-3A	R333	A-2E	R1011	A-10B	R2070	A-3F
Q15	A-3B	D4023	B-11E	R112	B-3A	R334	A-3E	R1012	B-10B	R2071	A-3F
Q16	A-3B	D4024	B-11E	R113	A-6C	R335	A-3E	R1013	B-10B	R2072	A-3F
Q17	A-3B	D4025	B-11E	R114	A-6C	R336	A-3E	R1014	B-9B	R2081	A-4H
Q18	A-3B	D4026	B-11E	R115	A-5B	R337	A-3E	R1016	B-9B	R2082	A-4H
Q19	A-3B	D4027	B-11E	R116	A-5A	R338	A-3E	R1017	B-9A	R2083	A-4H
Q20	A-3B	D4028	B-11E	R117	A-4A	R339	A-3E	R1018	B-9A	R2084	A-4H
Q21	A-3B	D4029	B-11F	R118	B-4A	R340	A-3E	R1019	B-9A	R2091	B-2G
Q22	A-1B	D4031	B-11G	R119	B-5B	R341	A-3E	R1020	A-10A	R2092	B-2G
Q23	A-1A			R180	B-3F	R342	A-3E	R1021	B-10A	R2093	B-1G
Q24	A-1A	R1	A-3A	R203	A-3C	R343	A-3E	R1022	B-10A	R2094	A-1F
Q25	A-2A	R2	B-3A	R204	B-3C	R344	B-3E	R1023	B-10A	R2095	A-2F
Q26	A-3B	R3	B-3A	R205	B-3C	R345	B-3E	R1024	B-10A	R2101	B-1G
Q27	A-5C	R4	A-3A	R206	B-3C	R346	B-3E	R1025	B-9A	R2102	B-1G
Q201	A-3C	R5	B-3A	R207	B-3C	R347	B-3E	R1026	B-9B	R2103	B-1G
Q207	A-2C	R6	A-3A	R208	B-2C	R348	A-2E	R1027	B-9B	R2104	B-1G
Q208	A-2D	R7	A-9D	R209	B-2C	R349	B-2E	R1028	B-8B	R2105	B-1G
Q209	A-2D	R8	B-9D	R210	B-3C	R350	A-2E	R1029	B-8B	R2106	B-2H
Q210	A-2D	R9	B-9D	R211	B-2C	R351	A-2E	R1030	B-8B	R2107	B-2G
Q211	A-2D	R10	B-8C	R212	B-2C	R352	A-2E	R1031	B-9B	R2108	B-4F
Q212	A-4C	R11	B-9D	R213	B-2C	R353	A-2E	R1032	B-8B	R2109	B-1H
Q213	A-4C	R12	B-9D	R214	B-2C	R354	B-2E	R1033	B-9B	R2110	B-1H
Q214	A-3D	R13	B-8C	R215	B-2C	R355	B-2E	R1034	B-9B	R2112	B-3F
Q215	A-3D	R14	B-8D	R229	A-1D	R356	A-2E	R1035	B-9B	R2113	B-3H
Q216	A-3D	R15	A-8C	R230	A-1D	R357	A-2E	R1036	B-8A	R2114	A-4F
Q217	A-3D	R16	B-8C	R231	A-1D	R359	B-2F	R1037	B-8A	R2115	B-3G
Q218	A-8E	R17	B-8D	R232	A-2D	R360	A-2E	R1038	B-8A	R2116	B-2H
Q219	A-8E	R18	B-8D	R233	B-1F	R362	B-2E	R1039	B-7A	R2117	A-4F
Q222	A-7D	R19	B-7D	R234	B-1F	R363	B-2E	R1040	B-7A	R2118	A-4F
Q223	A-7D	R20	A-6D	R235	B-2F	R364	B-4E	R1041	B-7A	R2119	B-3G
Q225	A-9E	R21	A-6C	R236	B-2E	R365	B-3E	R1042	B-8B	R2120	B-2H
Q226	A-9E	R22	B-6C	R239	B-2E	R366	A-2E	R1043	B-8A	R2121	B-2G
Q227	A-2D	R23	A-6C	R240	B-2E	R371	B-3E	R1044	B-8B	R2122	B-2G
Q228	A-3D	R24	B-6D	R241	A-2C	R372	A-4F	R1045	B-8A	R2141	A-4G
Q229	A-9E	R25	B-6C	R242	A-2C	R373	B-3F	R1046	B-7B	R2142	A-5G
Q230	A-9E	R26	B-6C	R243	A-2C	R374	A-4F	R1047	B-7B	R2143	A-4G
Q601	A-6D	R27	B-6C	R244	A-2C	R375	A-4F	R1048	B-7B	R2144	A-4G
Q602	A-6D	R28	B-6C	R245	A-2C	R376	B-4F	R1049	B-8B	R2145	A-5G
Q603	A-6D	R29	B-6C	R246	A-2C	R377	B-4F	R1050	B-7A	R2146	A-4G
Q604	A-6D	R30	B-5B	R247	B-2C	R378	B-3E	R1051	B-7A	R2147	A-5G

— **SUB1 CIRCUIT BOARD** — ✳ **See the page 4-1**

— **SIDE A** —





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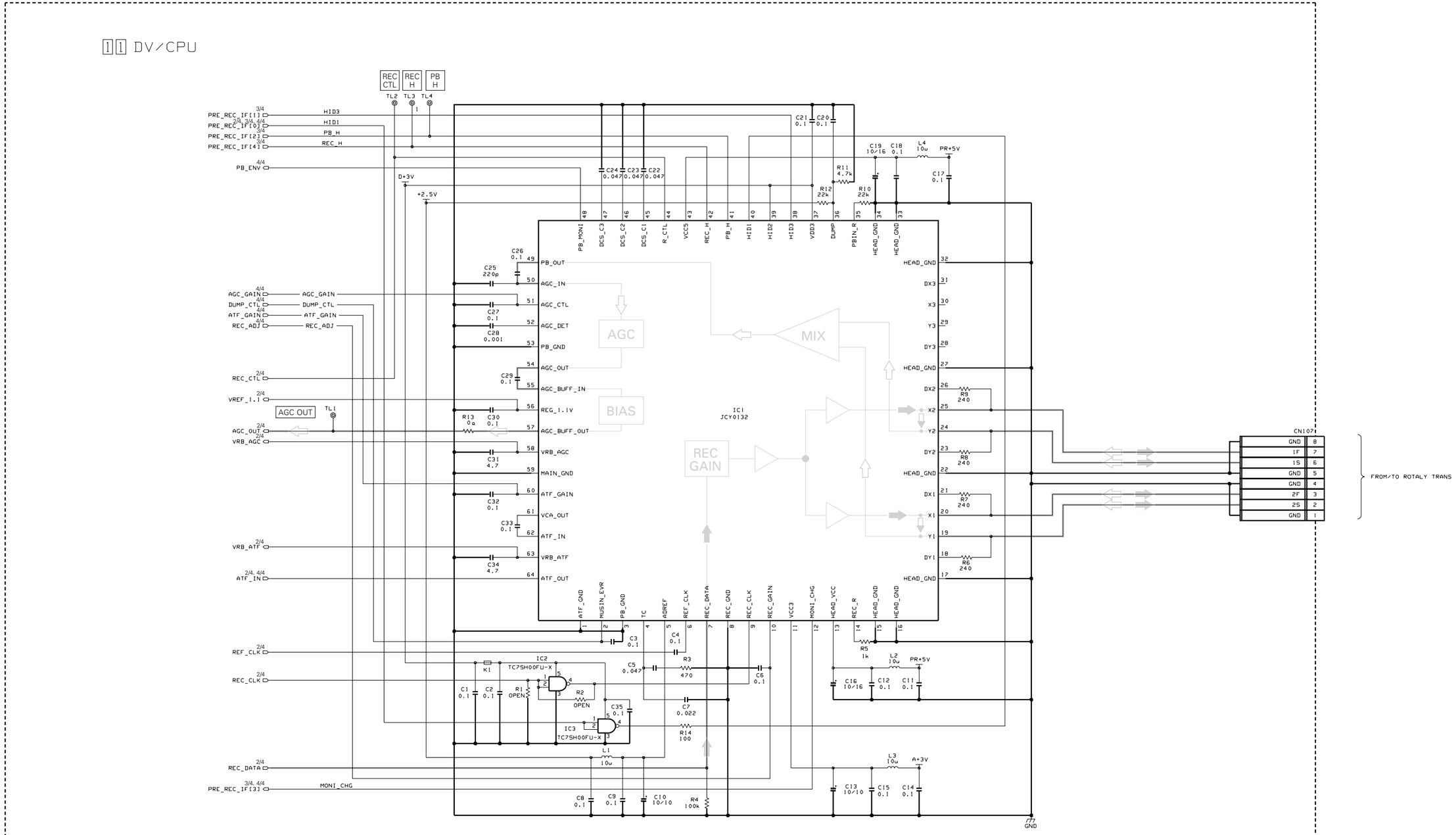
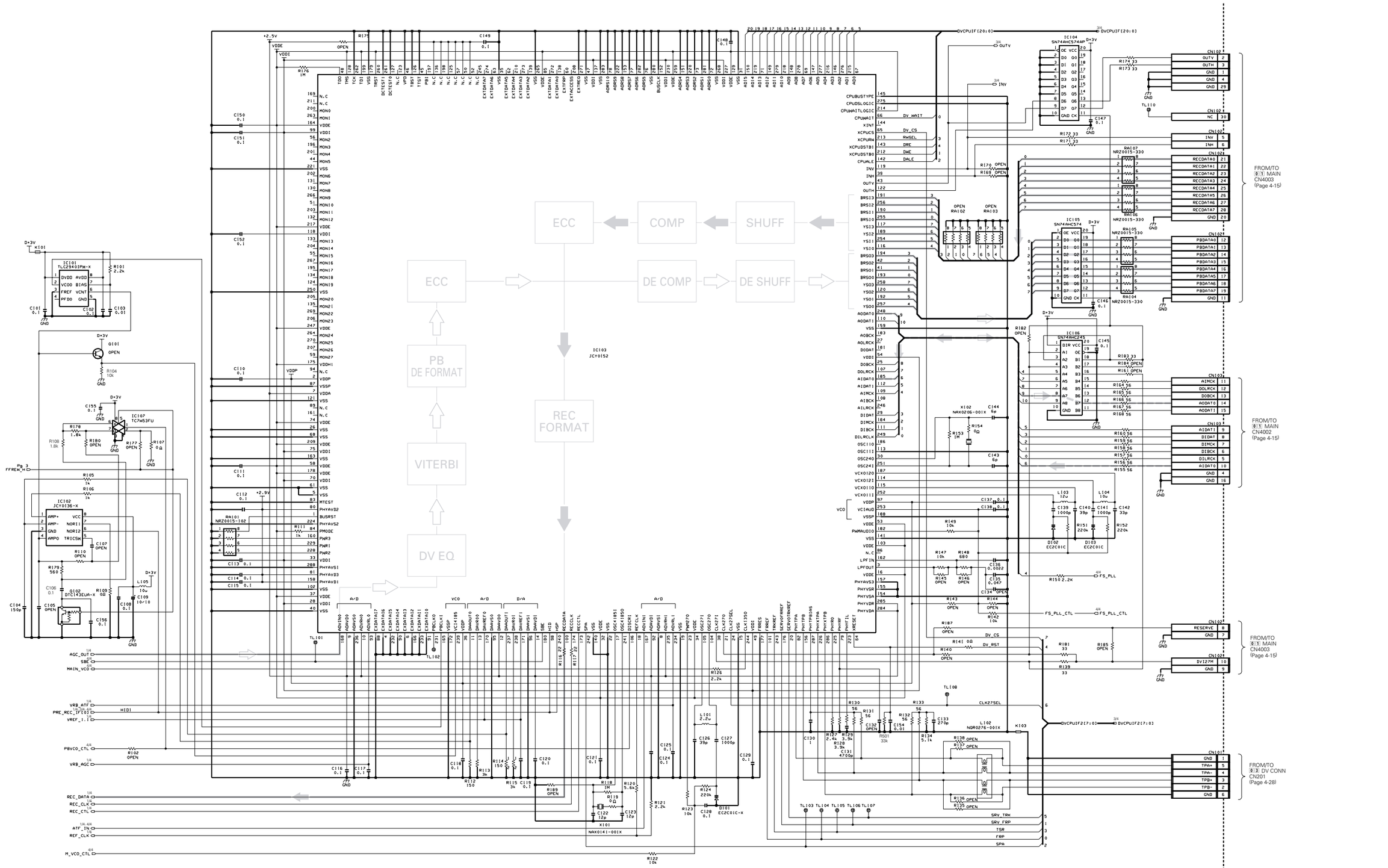
R2149	A-4G	C28	B-4A	C230	A-1D	C605	A-6D	C3025	A-6F		
R2150	A-4G	C29	A-4A	C231	A-1D	C606	A-4D	C3026	B-6G	K1	A-4A
R2151	A-4G	C30	B-4B	C232	A-2D	C607	A-5D	C3027	B-8H	K2	A-5B
R2152	A-4G	C31	B-4B	C233	B-1E	C609	A-1E	C3028	A-7G	K202	A-5F
R2153	A-4G	C32	B-4B	C234	B-1E	C610	A-1F	C3029	B-7G	K203	A-5E
R2154	A-4G	C33	B-4B	C235	B-1E	C611	A-2F	C3030	A-6H	K204	A-2E
R2201	B-2G	C34	B-4B	C236	B-2D	C612	A-5D	C3031	B-7H	K1001	A-8C
R2202	B-2G	C35	A-4B	C237	A-4E	C613	B-6E	C3032	A-6G	K1002	A-9C
R2203	B-2G	C36	B-4B	C238	A-2C	C614	B-6E	C3033	B-7G	K1003	A-10B
R2204	B-2G	C37	B-5C	C239	A-2C	C615	B-7E	C3034	B-8F	K1004	A-9C
R2205	B-2G	C38	A-5C	C240	A-2C	C616	A-6D	C3035	A-8F	K1005	A-10C
R2206	B-2G	C39	B-5B	C241	B-2C	C617	A-6E	C3036	B-8G	K1006	A-10C
R2501	B-1H	C40	B-5B	C242	B-2C	C618	A-5D	C3037	A-8G	K1007	A-9C
R2502	B-1H	C41	B-5B	C243	B-2C	C619	A-6D	C3038	A-8F	K2001	A-5F
R3001	B-10G	C42	B-5B	C244	B-2D	C621	A-4D	C3039	B-7G	K2002	A-5F
R3002	B-10G	C43	B-5B	C245	B-2D	C1001	A-9C	C3040	A-7F	K4001	A-1F
R3003	A-9H	C44	A-1C	C248	B-5F	C1002	A-10C	C3041	B-8G	K4002	A-1F
R3004	A-9H	C45	A-1C	C249	A-5F	C1003	B-10C	C3042	B-8G	K4003	A-10F
R3005	B-10G	C46	B-1C	C253	B-4C	C1004	A-10C	C3043	B-8F	K4004	A-10F
R3006	A-10H	C47	B-1C	C254	B-5C	C1005	B-10C	C3044	B-8G	K4005	A-10F
R3007	A-9G	C48	B-1C	C255	A-5C	C1006	A-9C	C3045	B-8F		
R3008	A-9G	C49	B-1C	C256	B-5C	C1007	A-9C	C3046	B-8F	LC1001	A-8A
R3009	B-8G	C50	B-1C	C257	A-4C	C1008	A-10B	C3047	B-9F		
R3010	A-8G	C51	A-1D	C258	A-4C	C1009	A-10B	C3048	B-9F	BT2001	A-2F
R3011	B-8G	C52	B-1D	C259	B-5C	C1010	A-10C	C3049	B-9G		
R3012	B-8G	C53	B-1D	C260	B-5C	C1011	A-10B	C3050	B-9F	F3001	A-11H
R3013	B-9G	C54	B-1D	C261	A-5C	C1012	A-9B	C3051	B-7G		
R3014	A-8G	C55	B-1C	C262	B-4B	C1013	A-10B	C3052	B-7F	J1	A-12C
R3015	B-9H	C56	A-1C	C263	B-3C	C1014	A-9B	C3053	B-7F	J2	A-12E
R3016	A-8H	C57	B-1C	C264	B-4C	C1015	A-10B	C3054	B-7F	J3	A-12F
R3017	A-8H	C58	B-1B	C265	A-4C	C1016	A-11A	C3055	B-7F	J4	A-12H
R3018	B-8H	C59	B-1C	C267	A-3D	C1017	A-11A	C3056	B-8F		
R3019	B-8H	C60	A-1C	C268	A-3D	C1018	A-9A	C3057	B-8F	L1	A-6C
R3020	A-8G	C61	A-1B	C269	A-3D	C1019	A-9A	C3058	B-8F	L2	A-6C
R3021	B-8G	C62	B-1C	C270	A-3D	C1020	A-9A	C3059	B-8F	L3	A-5A
R3022	B-7G	C63	A-1B	C271	A-3D	C1021	A-9B	C3061	A-10G	L4	A-4A
R3023	B-7G	C64	B-1A	C272	B-3D	C1022	A-9A	C3062	A-10G	L5	A-3A
R3024	B-7G	C65	B-1A	C273	A-3D	C1023	A-8A	C3063	B-9F	L6	A-2A
R3025	B-7G	C66	B-1A	C275	A-3D	C1024	A-8A	C3064	B-8F	L7	A-2B
R3026	A-8H	C67	B-1A	C277	B-10E	C1025	A-8A	C4001	B-10B	L8	A-2B
R3027	B-8H	C68	B-1C	C278	B-9E	C1026	A-8B	C4002	B-10B	L9	A-3B
R3028	B-7G	C69	A-1A	C279	A-9E	C1027	B-8B	C4003	B-10A	L10	A-3B
R3029	B-7H	C70	A-1B	C280	A-9E	C1028	A-8B	C4004	B-10B	L11	A-3B
R3030	B-7G	C71	B-1B	C281	A-8E	C1029	B-8B	C4005	B-10B	L12	A-3B
R3031	B-7H	C72	A-1A	C282	A-9E	C1030	B-8B	C4006	B-10A	L13	A-4B
R3032	B-7G	C73	A-2A	C283	A-8E	C1031	A-8A	C4007	B-11B	L14	A-4B
R3033	A-8F	C74	B-2A	C284	B-9E	C1032	A-8B	C4008	B-11A	L15	A-4B
R3034	B-8G	C75	B-3A	C288	A-8E	C1033	A-8B	C4009	A-1F	L16	A-3B
R3035	B-8G	C76	A-3A	C291	B-8E	C1034	A-7A	C4010	B-1F	L17	A-2B
R3036	A-8F	C77	B-2A	C292	B-8E	C1035	A-7B	C4011	B-1F	L18	A-3B
R3037	B-8F	C78	B-2A	C293	B-8E	C1036	A-7B	C4012	B-1F	L19	A-1D
R3038	B-8F	C79	A-2A	C294	B-8E	C1037	B-7A			L201	A-7E
R3039	B-7F	C80	B-4A	C295	A-8E	C1038	B-7A	VC1	A-1A	L202	A-3C
R3040	B-7F	C81	B-4B	C296	B-8E	C1039	B-7A	VC2	A-1A	L203	A-3D
R3041	A-7G	C82	A-4A	C297	B-7E	C1040	B-7A	VC601	A-1F	L205	A-5C
R3042	B-8G	C83	B-3A	C298	A-8E	C1041	B-7A	VC602	A-1F	L206	A-5C
R3043	B-7G	C84	B-3B	C299	B-8E	C1042	A-9C			L207	A-1E
R3044	B-8G	C85	B-3B	C300	B-7E	C1051	B-7B	X1	A-1B	L208	A-2E
R3045	B-8G	C86	B-3B	C301	A-9D	C1052	B-7C	X2	A-1B	L209	A-10E
R3046	B-8F	C87	B-3A	C302	B-8D	C1053	B-8C	X201	A-5E	L210	A-8E
R3047	B-8F	C88	B-2B	C303	B-9D	C1054	A-8C	X2001	A-3F	L211	A-8E
R3048	B-8F	C89	B-2B	C304	B-2C	C1055	B-9C	X2003	A-1G	L212	A-7E
R3049	B-8G	C90	A-2B	C305	A-7E	C1056	A-10A			L213	A-7E
R3050	B-7F	C91	B-2B	C306	A-7D	C1057	A-10A	FL1	A-7D	L214	A-7D
R3051	A-7G	C92	B-2B	C307	B-7D	C1058	A-7B			L215	A-7D
R3052	B-7F	C93	A-2B	C308	A-7D	C1059	A-8B	TH3001	A-10H	L216	A-6E
R3053	B-7F	C94	A-4B	C312	B-2D	C1060	A-9C	TH3002	A-10G	L217	A-4D
R3054	B-7F	C95	A-4B	C313	A-2D	C1061	A-11H	TH3003	A-8H	L218	A-1D
R3055	A-9F	C96	A-4B	C314	A-7D	C2001	B-4G	TH3004	A-8G	L219	A-5E
R3058	A-8H	C97	A-3B	C315	B-7D	C2002	B-4G			L220	A-2C
R3059	A-8G	C98	B-3B	C316	B-7D	C2003	B-1F	TP1	A-8C	L221	A-2C
R3069	A-8G	C99	B-3B	C317	B-7D	C2004	B-3G	TP2	A-8D	L222	A-3D
R3070	A-8H	C100	B-3B	C319	A-6E	C2005	B-1H	TP3	A-5C	L223	A-3D
R3071	A-8G	C101	A-3B	C320	B-6D	C2006	B-1G	TP4	A-4A	L224	A-2E
R3072	B-7G	C102	B-3B	C321	B-6E	C2021	B-1H	TP5	A-5A	L601	A-1F
R3073	B-8G	C103	B-3B	C322	A-5D	C2031	A-1G	TP6	A-2B	L602	A-5D
R3074	A-8H	C104	A-2B	C323	B-5D	C2032	B-1G	TP7	A-3B	L3001	A-7G
R3075	B-8F	C105	A-5D	C324	B-4D	C2033	B-1H	TP8	A-1C	L3002	A-7G
R3076	A-7F	C106	A-6A	C325	B-2E	C2060	B-3G	TP10	A-1A	L3003	A-7H
R4001	B-11D	C107	A-4A	C326	A-1E	C2064	B-3G	TP201	A-2A	L3004	A-7H
R4002	B-11F	C108	A-4A	C327	B-2E	C2065	A-2F	TP203	A-2A	L3005	A-7G
R4003	B-11F	C114	B-6A	C328	B-2E	C2081	B-4H	TP204	A-9D	L3006	A-8F
R4004	B-11F	C115	B-6A	C329	A-2E	C2082	B-4H	TP205	A-4C	L3007	A-9F
R4011	B-6G	C117	B-6A	C330	B-2E	C2091	A-2F	TP206	A-3D	L3008	A-7F
R4012	B-6G	C118	B-6B	C331	B-2E	C2092	A-1G	TP207	A-8E	L3009	A-8F
R4013	B-6G	C119	B-6B	C332	B-2D	C2101	B-1G	TP208	A-7D	L4001	B-11B
R4014	B-6G	C120	A-6B	C333	B-3E	C2102	B-2F	TP209	A-10E	L4002	B-10B
		C131	A-9E	C334	A-3E	C2103	A-4F	TP210	A-3E	L4003	B-10A
VR1001	A-10A	C132	A-9E	C335	A-3E	C2131	B-5G	TP211	A-3E	L4004	B-10B
VR1002	A-10A	C133	A-9E	C336	A-3E	C2132	A-5G	TP212	A-1D		
VR1003	A-8A	C134	A-9F	C337	B-3E	C2133	B-5F	TP2001	A-5H	MA1	-12H
VR1004	A-8A	C135	A-6B	C338	B-1D	C2134	B-5F	TP2002	A-3H	MA2	-1H
		C136	B-2E	C339	B-1D	C2135	A-5F	TP2003	A-4G	MA3	-1A
C1	B-6C	C137	A-6B	C340	A-1D	C2136	B-5F	TP2004	A-3H	MA4	-12A
C2	B-6C	C138	B-2E	C341	B-1D	C2137	B-5F	TP2005	A-4H		
C3	A-6C	C152	B-5B	C342	B-1D	C2138	A-5F	TP2006	A-4F	TL2001	A-1G
C4	A-9D	C156	B-3A	C343	A-1D	C2139	B-5F	TP2007	A-4F	TL2002	A-1G
C5	B-6C	C170	B-2E	C344	B-3E	C2501	B-1H	TP2008	A-3H	TL3001	A-9H
C6	B-6C	C171	B-2E	C345	B-3E	C3001	A-10H	TP2009	A-1H	TL3002	A-7H
C7	A-6C	C203	B-7E	C346	B-2E	C3002	A-9H	TP2010	A-1H	TL3003	B-7H
C8	A-8D	C204	B-7E	C347	B-4E	C3003	A-9G	TP2011	A-2G	TL3004	A-10G
C9	A-8D	C205	A-7E	C348	B-4E	C3004	B-9G	TP2012	A-1H	TL3005	A-6F
C10	A-8C	C206	B-7E	C349	B-5E	C3005	A-7H	TP2013	A-3H	TL3006	A-6H
C11	B-7D	C207	B-3B	C350	A-5E	C3006	A-6H	TP2014	A-1H	TL3007	A-9F
C12	B-6D	C208	B-3C	C351	A-5E	C3007	B-6H	TP2015	A-1H	TL3008	A-7F
C13	B-6C	C209	A-3C	C352	A-5E	C3010	B-10G	TP2016	A-5G	TL3009	B-6F
C14	A-5A	C210	A-3C	C353	A-5E	C3011	A-9F	TP2017	A-5G	TL3010	B-6H
C15	B-4A	C211	B-3D	C354	B-8E	C3012	A-10F	TP2018	A-5G	TL3011	B-9F
C16	B-6A	C212	A-3D	C355	A-9E	C3013	B-10G	TP2019	A-5G	TL3012	B-8F
C17	B-5A	C213	B-3D	C356	A-8E	C3014	B-9G	TP2020	A-2H	TL4001	A-11F
C18	B-6A	C214	A-2C	C357	A-8D	C3015	A-9G	TP2025	A-2G		
C19	A-6A	C215	A-2C	C358	B-9E	C3016	B-8G				
C20	B-6B	C216	A-3C	C359	B-8D	C3017	A-8H	CN1001	A-10B		
C21	B-6B	C217	B-3C	C369	A-1D	C3018	A-8H	CN3001	A-10G		
C22	A-6B	C218	B-3C	C501	A-3F	C3019	B-8G	CN4001	A-1E		
C23	B-5A	C219	B-3C	C502	A-3F	C3020	A-8H	CN4002	A-6G		
C24	A-5A	C220	A-2C	C503	A-3F	C3021	B-8H	CN4003	A-6F		
C25	A-5A	C221	A-2C	C504	A-3F	C3022	B-8G	CN4004	A-10E		
C26	A-4A	C222	A-2C	C603	A-6D	C3023	A-7G	CN4005	A-10F		

4.9 DV/CPU SCHEMATIC DIAGRAM 1/4

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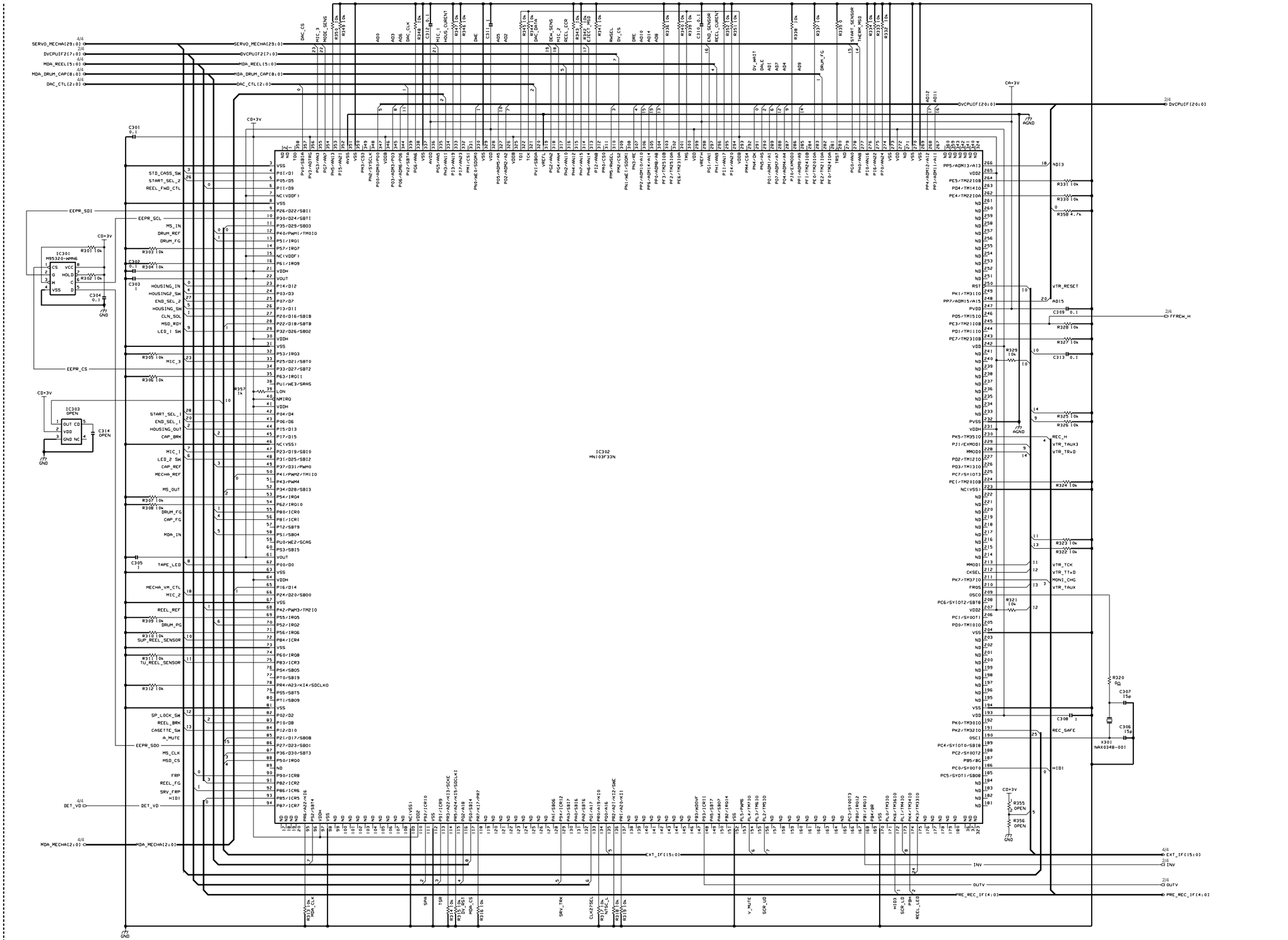
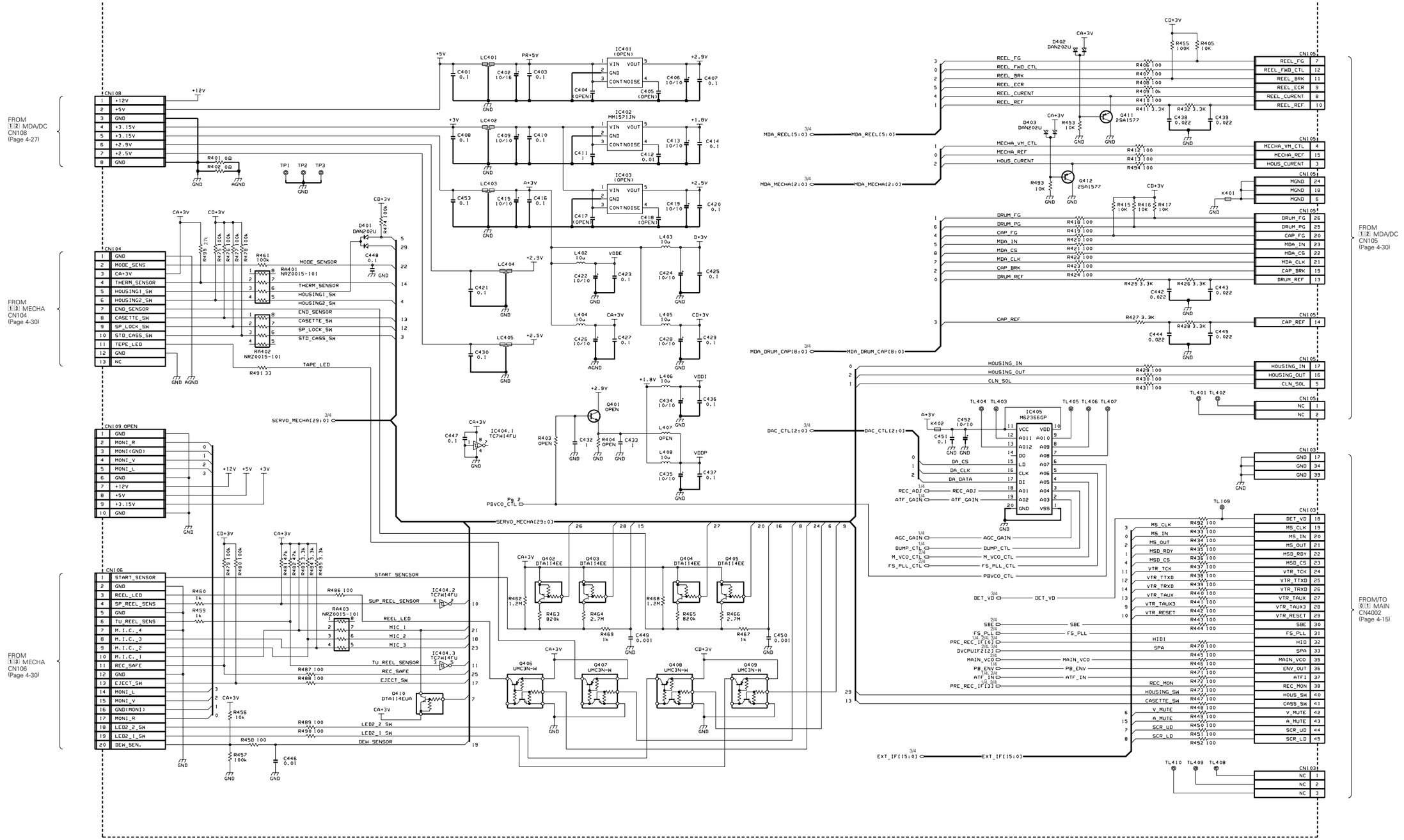
COMP
SHUFF
DE COMP
DE SHUFF
PB DE FORMAT
REC FORMAT
VITERBI
DV EQ
IC103 JCY0152
IC101 TLC29401PW-X
IC102 JCY0136-X
IC104 SN74AHC574AP
IC105 SN74AHC574
IC106 SN74AHC245
IC107 TC7WS3FU
X101 NAX0141-001X
X102 NAX0206-001X
K101
K103
Q101
Q102 DTC143EUA-X
D101 EC2C01C-x
D102 EC2C01C
D103 EC2C01C
L101 2.2u
L102 NQR0276-001X
L103 12u
L104 10u
TL101
TL102
TL103 TL104 TL105 TL106 TL107
TL108
TL110
RA101 NRZ0015-102
RA102
RA103
RA104 NRZ0015-330
RA105 NRZ0015-330
RA106 NRZ0015-330
RA107 NRZ0015-330
RS01 33k
D+3V
+2.5V
+2.9V
VDDE
VDDI
VDDP
OPEN
GND
DVCPUIF[20:0]
OUTV
OUTH
INV
INH
DV_WAIT
DV_CS
RWSEL
DRE
DWE
DALE
DV_RST
CLK27SEL
HIDI
FS_PLL
FS_PLL_CTL
SRV_TRK
SRV_FRP
TSR
FRP
SPA
FROM/TO 01 MAIN CN4003 (Page 4-15)
FROM/TO 01 MAIN CN4002 (Page 4-15)
FROM/TO 03 DV CONN CN201 (Page 4-28)
FROM/TO 01 MAIN CN4003 (Page 4-15)
AGC_OUT
SBE
MAIN_VCO
VRB_ATF
PRC_REC_IFEQ
VREF_1.1
PBVCO_CTL
VRB_AGC
REC_DATA
REC_CLK
REC_CTL
ATF_IN
REF_CLK
M_VCO_CTL
FFREM_H

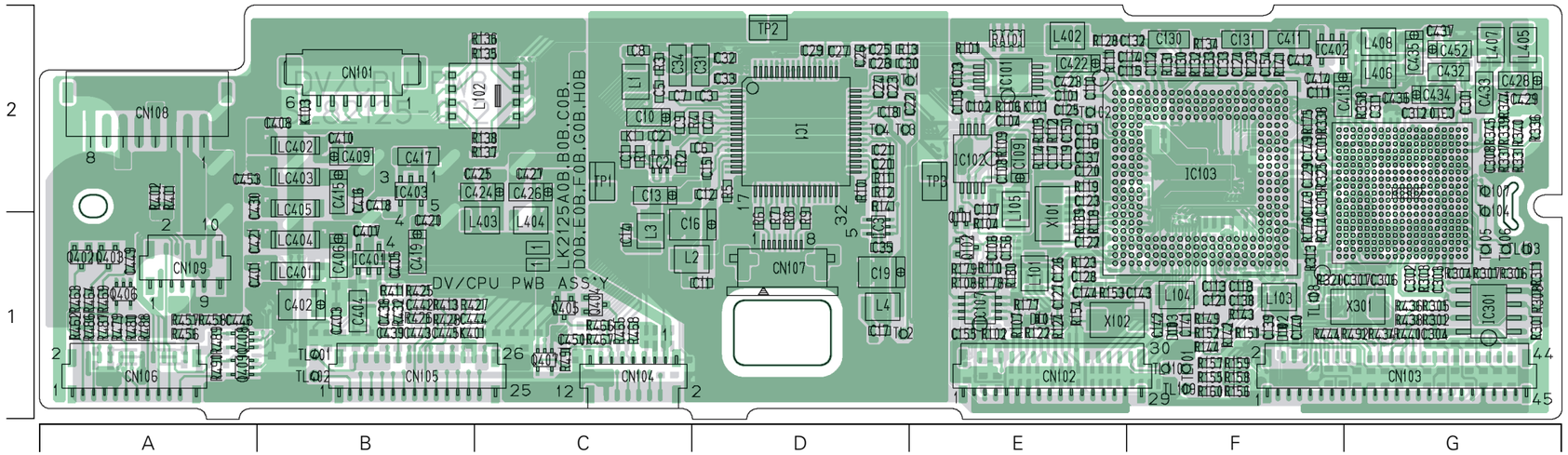
— DV/CPU SCHEMATIC DIAGRAM 3/4 —



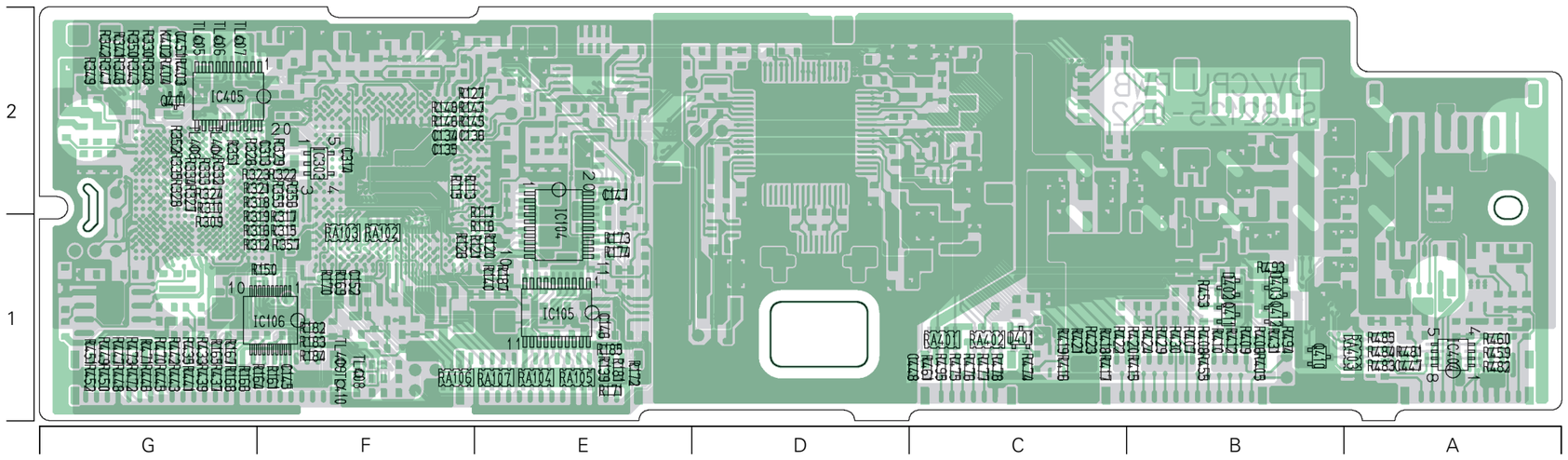

FROM 1.2 MDA/DC CN108 (Page 4-27)
FROM 1.3 MECHA CN104 (Page 4-30)
FROM 1.3 MECHA CN106 (Page 4-30)
FROM 1.2 MDA/DC CN105 (Page 4-30)
FROM/TO 0.1 MAIN CN4002 (Page 4-15)
CN108
CN104
CN109 OPEN
CN106
CN105
CN103
IC401 (OPEN)
IC402 MM1571JN
IC403 (OPEN)
IC404.1 TC7W14FU
IC404.2 TC7W14FU
IC404.3 TC7W14FU
IC405 M62366GP
Q401 OPEN
Q402 DTA114EE
Q403 DTA114EE
Q404 DTA114EE
Q405 DTA114EE
Q406 UMC3N-W
Q407 UMC3N-W
Q408 UMC3N-W
Q409 UMC3N-W
Q410 DTA114EUA
Q411 2SA1577
Q412 2SA1577
D401 DAN202U
D402 DAN202U
D403 DAN202U
SERVO_MECHA[29:0]
DAC_CTL[2:0]
EXT_IF[15:0]
PBVCO_CTL
MDA_REEL[5:0]
MDA_MECHA[2:0]
MDA_DRUM_CAP[8:0]
REEL_FG
REEL_FWD_CTL
REEL_BRK
REEL_ECR
REEL_CURENT
REEL_REF
MECHA_VM_CTL
MECHA_REF
HOUS_CURENT
DRUM_FG
DRUM_PG
CAP_FG
MDA_IN
MDA_CS
MDA_CLK
CAP_BRK
DRUM_REF
CAP_REF
HOUSING_IN
HOUSING_OUT
CLN_SOL
MODE_SENS
THERM_SENSOR
HOUSING1_SW
HOUSING2_SW
END_SENSOR
CASETTE_SW
SP_LOCK_SW
STD_CASS_SW
TAPE_LED
START_SENSOR
SUP_REEL_SENSOR
REEL_LED
MIC_1
MIC_2
MIC_3
TU_REEL_SENSOR
REC_SAFE
EJECT_SW
LED2_2_SW
LED2_1_SW
DEW_SENSOR
DA_CS
DA_CLK
DA_DATA
REC_ADJ
ATF_GAIN
AGC_GAIN
DUMP_CTL
M_VCO_CTL
FS_PLL_CTL
DET_VD
SBE
FS_PLL
MAIN_VCO
PB_ENV
ATF_IN
PRE_REC_IF[0]
DVCPUIF2[2]
PRE_REC_IF[3]
MIDI
SPA
REC_MON
HOUSING_SW
CASSETTE_SW
V_MUTE
A_MUTE
SCR_UD
SCR_LD
MSD_RDY
MSD_CS
VTR_TCK
VTR_TTXD
VTR_TRXD
VTR_TAUX
VTR_TAUX3
VTR_RESET
MSD_CLK
MSD_IN
MSD_OUT
MGND
+12V
+5V
+3.15V
+2.9V
+3V
+1.8V
CA+3V
CD+3V
A+3V
D+3V
PR+5V
VDDE
VDDI
VDDP
GND
AGND

4.10 DV/CPU CIRCUIT BOARD

— SIDE A —



— SIDE B —



● **ADDRESS TABLE OF BOARD PARTS**

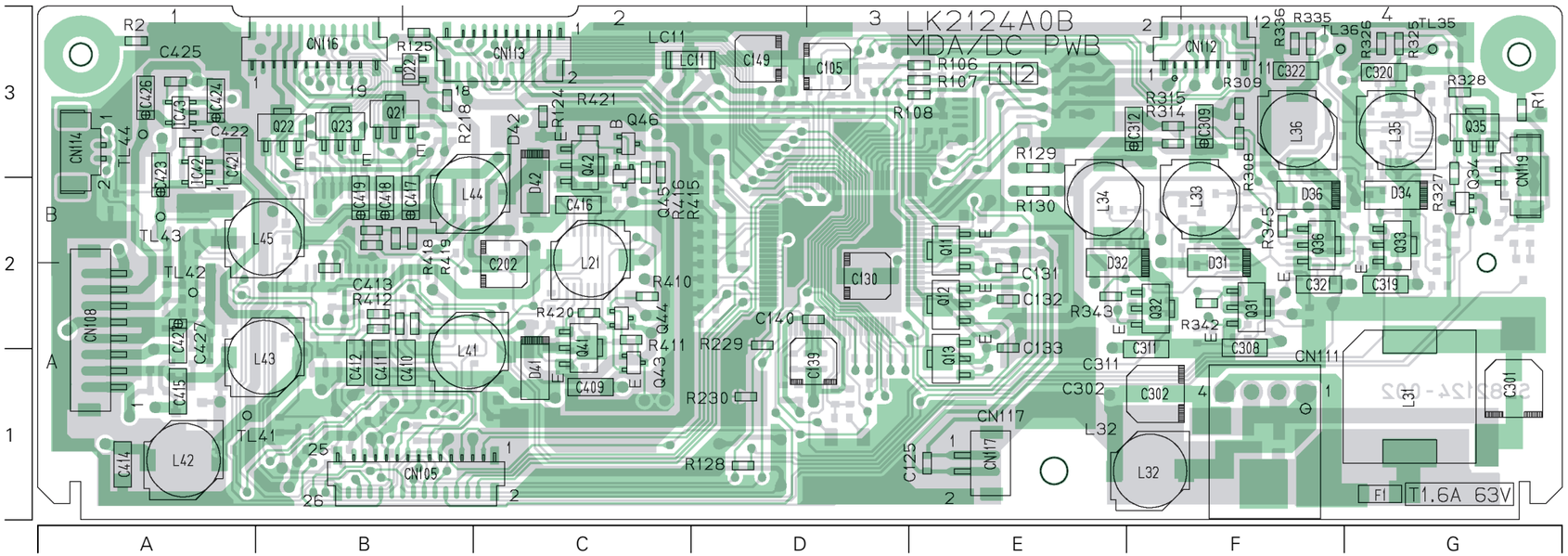
Each address may have an address error by one interval.

Side — A-1C — Y axis / X axis

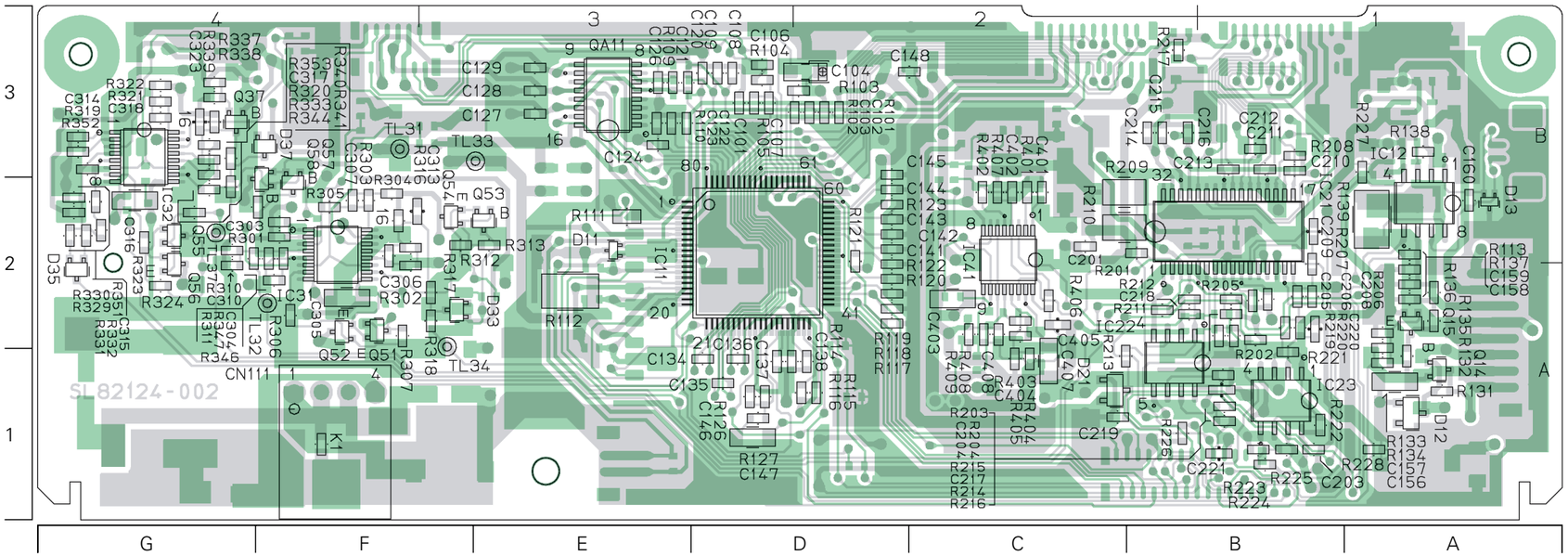
IC1	A-2D	R136	A-2C	R339	A-2G	R473	B-1G	C119	A-2E	C439	A-1B
IC2	A-2C	R137	A-2C	R340	A-2G	R474	B-1C	C120	A-2E	C442	A-1B
IC3	A-1D	R138	A-2C	R341	B-2G	R475	B-1C	C121	A-1F	C443	A-1B
IC101	A-2E	R139	B-1E	R342	B-2G	R476	B-1C	C122	A-1E	C444	A-1B
IC102	A-2E	R140	B-1E	R343	B-2G	R477	B-1C	C123	A-2E	C445	A-1B
IC103	A-2F	R141	A-2F	R344	A-2G	R478	B-1C	C124	A-2F	C446	A-1A
IC104	B-1E	R142	A-1F	R345	A-2G	R479	A-1A	C125	A-2E	C447	B-1A
IC105	B-1E	R143	A-1F	R346	B-2G	R480	A-1A	C126	A-1E	C448	B-1C
IC106	B-1F	R144	A-1F	R347	B-2G	R481	B-1A	C127	A-1E	C449	A-1A
IC107	A-1E	R145	B-2F	R348	B-2G	R482	B-1A	C128	A-1E	C450	A-1C
IC301	A-1G	R146	B-2F	R349	B-2G	R483	B-1A	C129	A-2F	C451	B-2G
IC302	A-2G	R147	B-2F	R350	B-2G	R484	B-1A	C130	A-2F	C452	A-2G
IC303	B-2F	R148	B-2F	R351	B-2G	R485	B-1A	C131	A-2F	C453	A-2A
IC401	A-1B	R149	A-1F	R352	B-2G	R486	A-1A	C132	A-2F		
IC402	A-2F	R150	B-1F	R355	B-2F	R487	A-1A	C133	A-2F	X101	A-1E
IC403	A-2B	R151	A-1F	R356	B-2F	R488	A-1A	C134	B-2F	X102	A-1E
IC404	B-1A	R152	A-1F	R357	B-1F	R489	A-1A	C135	B-2F	X301	A-1G
IC405	B-2G	R153	A-1E	R358	A-2G	R490	A-1A	C136	B-2F		
		R154	A-1E	R401	A-2A	R491	A-1C	C137	A-2E	TP1	A-2C
Q101	A-1E	R155	A-1F	R402	A-2A	R492	A-1G	C138	A-1F	TP2	A-2D
Q102	A-1E	R156	A-1F	R403	B-2G	R493	B-1B	C139	A-1F	TP3	A-2E
Q401	B-2G	R157	A-1F	R404	B-2G	R494	B-1B	C140	A-1F		
Q402	A-1A	R158	A-1F	R405	B-1B	R495	B-1C	C141	A-1F	CN101	A-2B
Q403	A-1A	R159	A-1F	R406	B-1B			C142	A-1F	CN102	A-1E
Q404	A-1C	R160	A-1F	R407	B-1B	RA101	A-2E	C143	A-1F	CN103	A-1G
Q405	A-1C	R161	B-1F	R408	B-1B	RA102	B-1F	C144	A-1E	CN104	A-1C
Q406	A-1A	R164	B-1F	R409	B-1B	RA103	B-1F	C145	B-1F	CN105	A-1B
Q407	A-1C	R165	B-1G	R410	B-1B	RA104	B-1E	C146	B-1E	CN106	A-1A
Q408	A-1A	R166	B-1G	R411	A-1B	RA105	B-1E	C147	B-2E	CN107	A-1D
Q409	A-1A	R167	B-1G	R412	B-1B	RA106	B-1F	C148	A-2F	CN108	A-2A
Q410	B-1B	R168	B-1G	R413	A-1B	RA107	B-1E	C149	A-2F	CN109	A-1A
Q411	B-1B	R169	B-1F	R415	B-1B	RA401	B-1C	C150	A-2E		
Q412	B-1B	R170	B-1F	R416	B-1C	RA402	B-1C	C151	A-2E	K1	A-2C
		R171	B-1E	R417	B-1C	RA403	B-1A	C152	B-1F	K101	A-2E
D101	A-1E	R172	B-1E	R418	B-1C			C154	A-2F	K103	A-2B
D102	A-1F	R173	B-1E	R419	B-1C	C1	A-2C	C155	A-1E	K401	A-1B
D103	A-1F	R174	B-1E	R420	B-1B	C2	A-2C	C156	A-1E	K402	B-2G
D401	B-1C	R175	A-2F	R421	B-1C	C3	A-2D	C301	A-2G		
D402	B-1B	R176	A-1F	R422	B-1C	C4	A-2D	C302	A-1G	LC401	A-1B
D403	B-1B	R177	A-1E	R423	B-1C	C5	A-2C	C303	A-1G	LC402	A-2B
		R178	A-1E	R424	B-1B	C6	A-2D	C304	A-1G	LC403	A-2B
R1	A-2C	R179	A-1E	R425	A-1B	C7	A-2C	C305	A-2F	LC404	A-1B
R2	A-2C	R180	A-1E	R426	A-1B	C8	A-2C	C306	A-1G	LC405	A-2B
R3	A-2C	R181	B-1E	R427	A-1B	C9	A-2C	C307	A-1G		
R4	A-2D	R182	B-1F	R428	A-1B	C10	A-2C	C308	A-2G	L1	A-2C
R5	A-2D	R183	B-1F	R429	B-1B	C11	A-1D	C309	A-2F	L2	A-1C
R6	A-1D	R184	B-1F	R430	B-1B	C12	A-2D	C310	A-2G	L3	A-1C
R7	A-1D	R185	B-1E	R431	B-1B	C13	A-2C	C311	A-2G	L4	A-1D
R8	A-1D	R187	B-1E	R432	A-1B	C14	A-1C	C312	A-2G	L101	A-1E
R9	A-1D	R189	A-1E	R433	B-1G	C15	A-2D	C313	B-2F	L102	A-2C
R10	A-2D	R301	A-1G	R434	A-1G	C16	A-1D	C314	B-2F	L103	A-1F
R11	A-2D	R302	A-1G	R435	B-1G	C17	A-1D	C401	A-1A	L104	A-1F
R12	A-2D	R303	A-1G	R436	A-1G	C18	A-2D	C402	A-1B	L105	A-2E
R13	A-2D	R304	A-1G	R437	B-1G	C19	A-1D	C403	A-1B	L402	A-2E
R14	A-2D	R305	A-1G	R438	A-1G	C20	A-2D	C404	A-1B	L403	A-1C
R101	A-2E	R306	A-1G	R439	B-1G	C21	A-2D	C405	A-1B	L404	A-1C
R102	A-1E	R307	A-1G	R440	A-1G	C22	A-2E	C406	A-1B	L405	A-2G
R104	A-1E	R308	A-1G	R441	B-1G	C23	A-2D	C407	A-1B	L406	A-2G
R105	A-2E	R309	B-1G	R442	B-1G	C24	A-2D	C408	A-2B	L407	A-2G
R106	A-2E	R310	B-2G	R443	B-1G	C25	A-2D	C409	A-2B	L408	A-2G
R107	A-1E	R311	A-1G	R444	A-1F	C26	A-2D	C410	A-2B		
R108	A-1E	R312	B-1F	R445	B-1G	C27	A-2D	C411	A-2F	TL1	A-2E
R109	A-2E	R313	A-1F	R446	B-1G	C28	A-2D	C412	A-2F	TL2	A-1D
R110	A-1E	R314	A-1F	R447	B-1G	C29	A-2D	C413	A-2F	TL3	A-2D
R111	A-2E	R315	B-1F	R448	B-1G	C30	A-2D	C414	A-2F	TL4	A-2D
R112	A-2E	R316	B-1F	R449	B-1G	C31	A-2D	C415	A-2B	TL101	A-1F
R113	B-2F	R317	B-1F	R450	B-1G	C32	A-2D	C416	A-2B	TL102	A-2E
R114	A-2E	R318	B-2F	R451	B-1G	C33	A-2D	C417	A-2B	TL103	A-1G
R115	B-2F	R319	B-1F	R452	B-1G	C34	A-2C	C418	A-2B	TL104	A-2G
R116	B-1E	R320	A-1F	R453	B-1B	C35	A-1D	C419	A-1B	TL105	A-1G
R117	B-2E	R321	B-2F	R455	B-1B	C101	A-2E	C420	A-1B	TL106	A-1G
R118	A-1E	R322	B-2F	R456	A-1A	C102	A-2E	C421	A-1A	TL107	A-2G
R119	A-2E	R323	B-2F	R457	A-1A	C103	A-2E	C422	A-2E	TL108	A-1F
R120	B-1E	R324	B-2G	R458	A-1A	C104	A-2E	C423	A-2E	TL109	A-1F
R121	B-1E	R325	A-2F	R459	B-1A	C105	A-2E	C424	A-2C	TL110	A-1F
R122	A-1E	R326	B-2G	R460	B-1A	C106	A-1E	C425	A-2C	TL401	A-1B
R123	A-1E	R327	B-2G	R461	B-1C	C107	A-2E	C426	A-2C	TL402	A-1B
R124	A-1E	R328	B-2G	R462	A-1A	C108	A-2E	C427	A-2C	TL403	B-2G
R126	B-1F	R329	B-2F	R463	A-1A	C109	A-2E	C428	A-2G	TL404	B-2G
R127	B-2F	R330	B-2G	R464	A-1A	C110	A-2E	C429	A-2G	TL405	B-2G
R128	A-2E	R331	A-2G	R465	A-1C	C111	A-2F	C430	A-2A	TL406	B-2G
R129	A-2F	R332	B-2G	R466	A-1C	C112	A-2F	C432	A-2G	TL407	B-2G
R130	A-2F	R333	B-2G	R467	A-1C	C113	A-1F	C433	A-2G	TL408	B-1F
R131	A-2F	R334	B-2G	R468	A-1C	C114	A-2F	C434	A-2G	TL409	B-1F
R132	A-2F	R335	B-2G	R469	A-1A	C115	A-2F	C435	A-2G	TL410	B-1F
R133	A-2F	R336	A-2G	R470	B-1G	C116	A-2E	C436	A-2G		
R134	A-2F	R337	A-2G	R471	B-1G	C117	A-2E	C437	A-2G		
R135	A-2C	R338	A-2F	R472	B-1G	C118	A-1F	C438	A-1B		

4.11 MDA/DC CIRCUIT BOARD

— SIDE A —



— SIDE B —



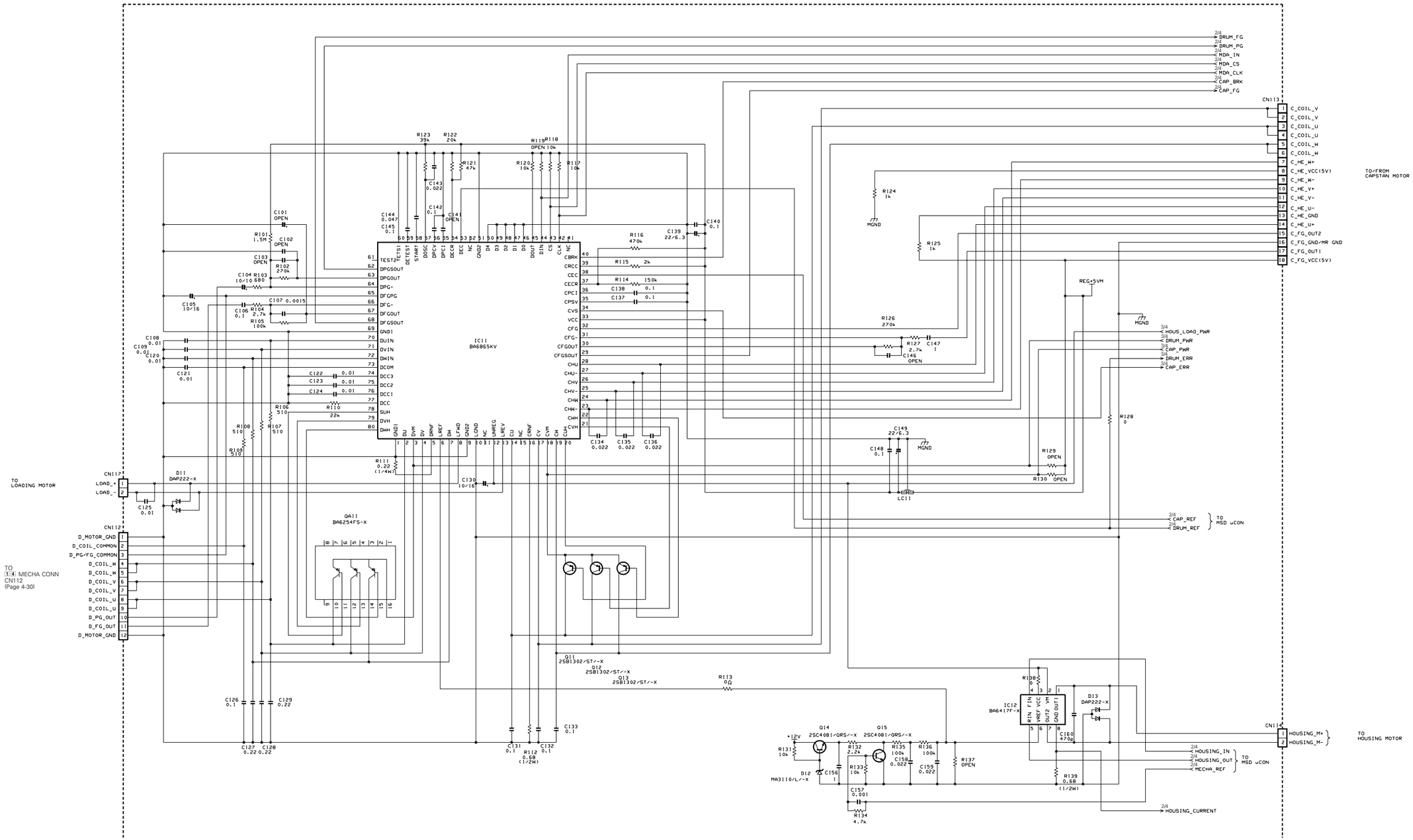
● **ADDRESS TABLE OF BOARD PARTS**

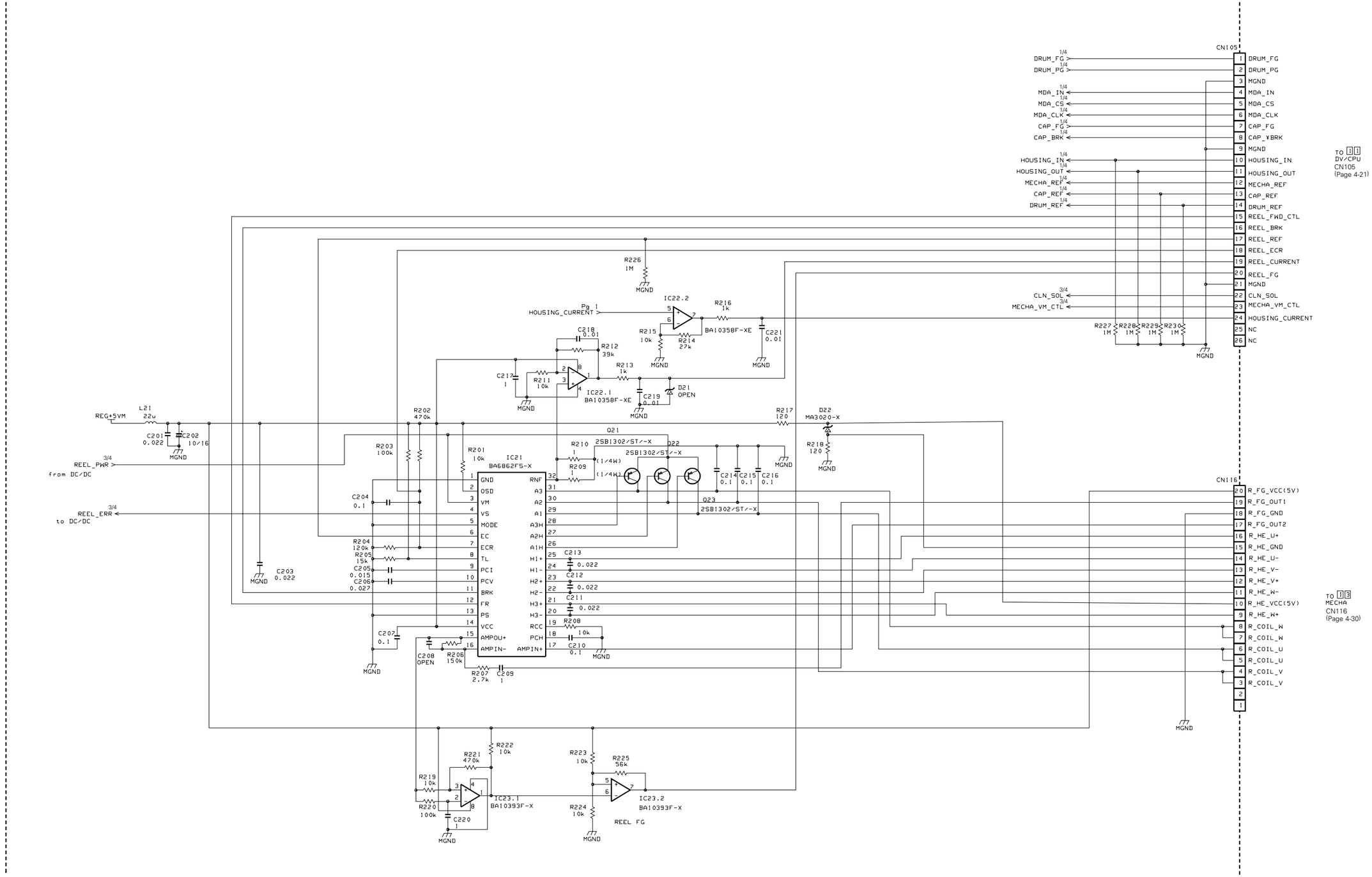
Each address may have an address error by one interval.

Side A-1C — Y axis / X axis

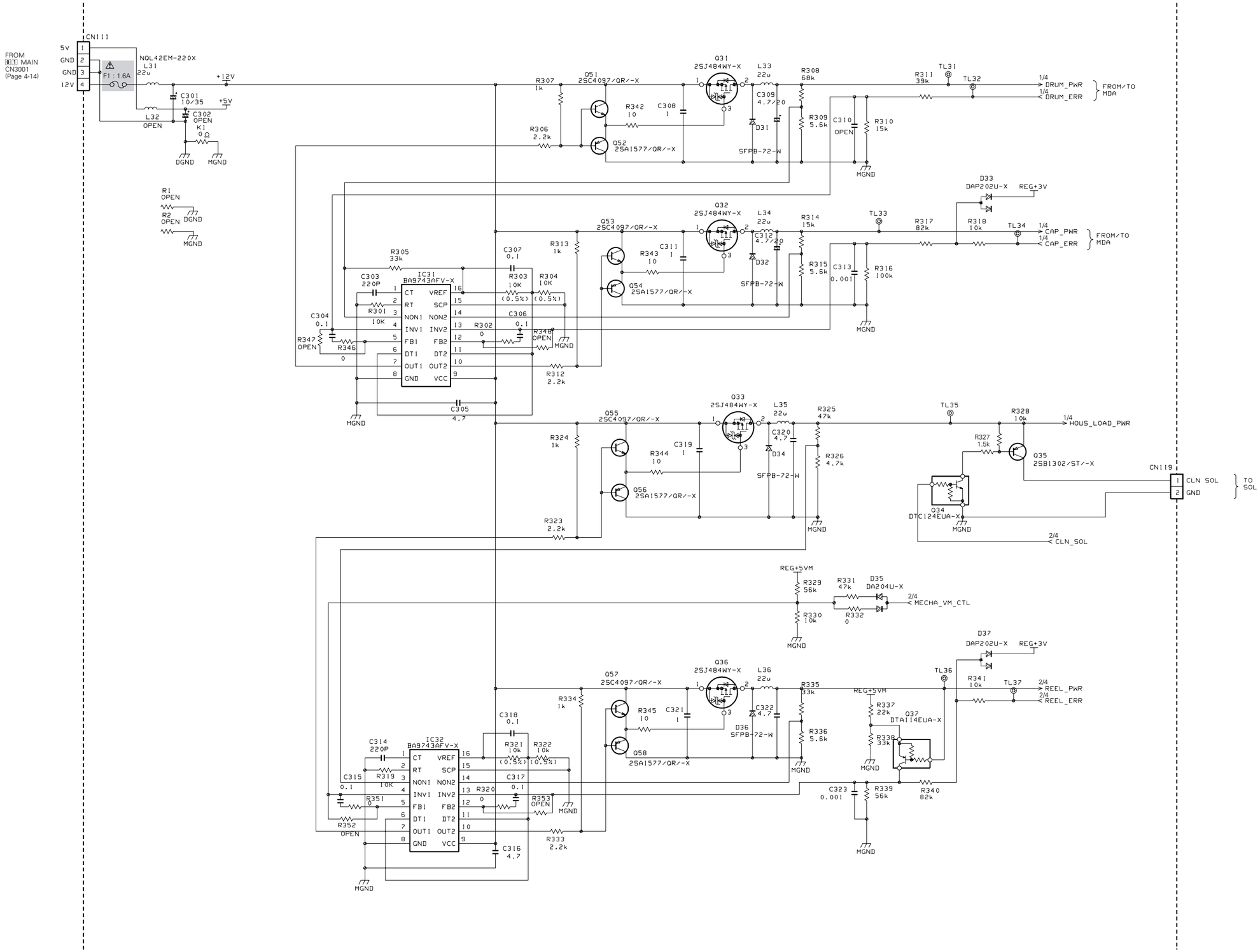
IC11	B-2D	R120	B-2D	R328	A-3G	C142	B-2D	C422	A-3A
IC12	B-2A	R121	B-2D	R329	B-2G	C143	B-2D	C423	A-2A
IC21	B-2B	R122	B-2D	R330	B-2G	C144	B-2D	C424	A-3A
IC22	B-1B	R123	B-2D	R331	B-2G	C145	B-2D	C425	A-3A
IC23	B-1B	R124	A-3C	R332	B-2G	C146	B-1D	C426	A-3A
IC31	B-2F	R125	A-3B	R333	B-2G	C147	B-1D	C427	A-2A
IC32	B-3G	R126	B-1D	R334	B-2F	C148	B-3C		
IC41	B-2C	R127	B-1D	R335	A-3F	C149	A-3D	CN105	A-1B
IC42	A-2A	R128	A-1D	R336	A-3F	C156	B-1A	CN108	A-2A
IC43	A-3A	R129	A-3E	R337	B-3G	C157	B-1A	CN111	A-1F
		R130	A-2E	R338	B-3G	C158	B-2A	CN112	A-3F
Q11	A-2E	R131	B-1A	R339	B-3G	C159	B-2A	CN113	A-3C
Q12	A-2E	R132	B-1A	R340	B-3G	C160	B-2A	CN114	A-3A
Q13	A-1E	R133	B-2A	R341	B-2G	C201	B-2C	CN116	A-3B
Q14	B-1A	R134	B-1A	R342	A-2F	C202	A-2C	CN117	A-1E
Q15	B-2A	R135	B-2A	R343	A-2E	C203	B-1B	CN119	A-2G
Q21	A-3B	R136	B-2A	R344	B-2G	C204	B-2B		
Q22	A-3B	R137	B-2A	R345	A-2F	C205	B-2B	K1	B-1F
Q23	A-3B	R138	B-3A	R346	B-2F	C206	B-2B		
Q31	A-2F	R139	B-2A	R347	B-2F	C207	A-2B	LC11	A-3C
Q32	A-2F	R201	B-2B	R348	B-2F	C208	B-2B		
Q33	A-2G	R202	B-2B	R351	B-2G	C209	B-2B	F1	A-1G
Q34	A-2G	R203	B-2B	R352	B-3G	C210	B-2B		
Q35	A-3G	R204	B-2B	R353	B-3G	C211	B-3B	L21	A-2C
Q36	A-2F	R205	B-2B	R401	B-2C	C212	B-3B	L31	A-1G
Q37	B-3G	R206	B-2B	R402	B-2C	C213	B-3B	L32	A-1F
Q41	A-1C	R207	B-2B	R403	B-2C	C214	B-3B	L33	A-2F
Q42	A-3C	R208	B-3B	R404	B-1C	C215	B-3B	L34	A-2E
Q43	A-1C	R209	B-2C	R405	B-1C	C216	B-3B	L35	A-3G
Q44	A-2C	R210	B-2C	R406	B-2C	C217	B-1B	L36	A-3F
Q45	A-2C	R211	B-2B	R407	B-2C	C218	B-2B	L41	A-1B
Q46	A-3C	R212	B-2B	R408	B-2C	C219	B-1C	L42	A-1A
Q51	B-2F	R213	B-1C	R409	B-2C	C220	B-2B	L43	A-1B
Q52	B-2F	R214	B-1B	R410	A-2C	C221	B-1B	L44	A-2B
Q53	B-2E	R215	B-1B	R411	A-2C	C301	A-1G	L45	A-2B
Q54	B-2F	R216	B-1B	R412	A-2B	C302	A-1F		
Q55	B-2G	R217	B-3B	R413	A-2B	C303	B-2F	QA11	B-3E
Q56	B-2G	R218	A-3B	R414	A-2B	C304	B-2F		
Q57	B-2F	R219	B-2B	R415	A-2C	C305	B-2F	TL31	B-3F
Q58	B-2F	R220	B-2B	R416	A-2C	C306	B-2F	TL32	B-2F
		R221	B-1B	R417	A-2B	C307	B-2F	TL33	B-3E
D11	B-2E	R222	B-1B	R418	A-2B	C308	A-1F	TL34	B-1F
D12	B-1A	R223	B-1B	R419	A-2B	C309	A-3F	TL35	A-3G
D13	B-2A	R224	B-1B	R420	A-2C	C310	B-2G	TL36	A-3F
D21	B-1C	R225	B-1B	R421	A-3C	C311	A-1F	TL37	B-2G
D22	A-3B	R226	B-1B			C312	A-3F	TL41	A-1A
D31	A-2F	R227	B-2A	C101	B-3D	C313	B-2F	TL42	A-2A
D32	A-2E	R228	B-1A	C102	B-3D	C314	B-3G	TL43	A-2A
D33	B-2F	R229	A-1D	C103	B-3D	C315	B-2G	TL44	A-3A
D34	A-2G	R230	A-1D	C104	B-3D	C316	B-2G		
D35	B-2G	R301	B-2F	C105	A-3D	C317	B-3G		
D36	A-2F	R302	B-2F	C106	B-3D	C318	B-3G		
D37	B-3F	R303	B-2F	C107	B-3D	C319	A-2G		
D41	A-1C	R304	B-2F	C108	B-3D	C320	A-3G		
D42	A-2C	R305	B-2F	C109	B-3D	C321	A-2F		
		R306	B-2F	C120	B-3D	C322	A-3F		
R1	A-3G	R307	B-2F	C121	B-3E	C323	B-3G		
R2	A-3A	R308	A-3F	C122	B-3E	C401	B-2C		
R101	B-3D	R309	A-3F	C123	B-3E	C402	B-2C		
R102	B-3D	R310	B-2G	C124	B-3E	C403	B-2C		
R103	B-3D	R311	B-2G	C125	A-1E	C404	B-2C		
R104	B-3D	R312	B-2F	C126	B-3E	C405	B-2C		
R105	B-3D	R313	B-2E	C127	B-3E	C407	B-1C		
R106	A-3E	R314	A-3F	C128	B-3E	C408	B-2C		
R107	A-3E	R315	A-3F	C129	B-3E	C409	A-1C		
R108	A-3E	R316	B-2F	C130	A-2D	C410	A-1B		
R109	B-3E	R317	B-2F	C131	A-2E	C411	A-1B		
R110	B-3E	R318	B-2F	C132	A-2E	C412	A-1B		
R111	B-2E	R319	B-3G	C133	A-1E	C413	A-2B		
R112	B-2E	R320	B-2G	C134	B-1D	C414	A-1A		
R113	B-2A	R321	B-3G	C135	B-1D	C415	A-1A		
R114	B-1D	R322	B-3G	C136	B-1D	C416	A-2C		
R115	B-1D	R323	B-2G	C137	B-1D	C417	A-2B		
R116	B-1D	R324	B-2G	C138	B-1D	C418	A-2B		
R117	B-2D	R325	A-3G	C139	A-1D	C419	A-2B		
R118	B-2D	R326	A-3G	C140	A-2D	C420	A-2B		
R119	B-2D	R327	A-2G	C141	B-2D	C421	A-3A		

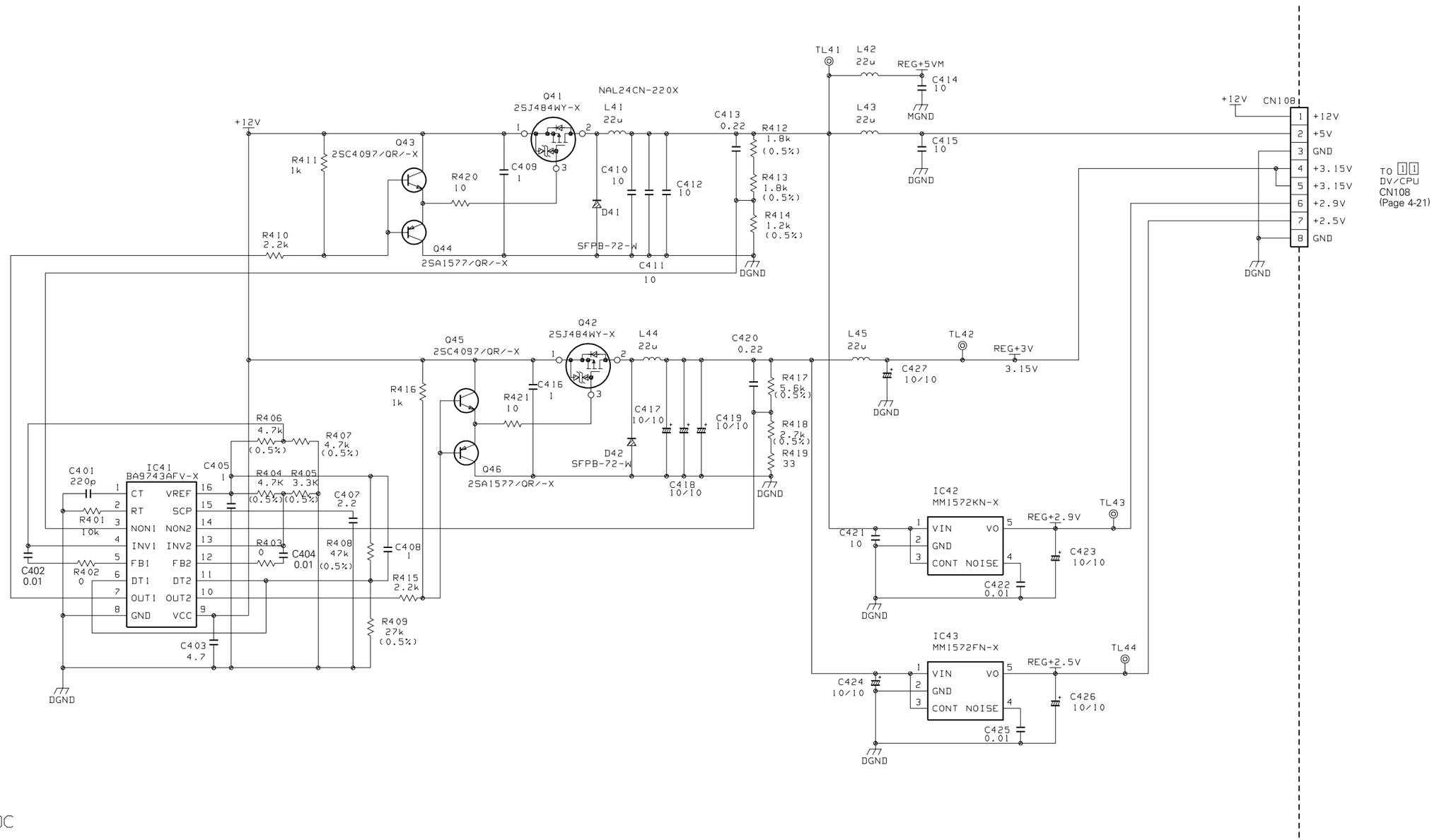
4.12 MDA/DC SCHEMATIC DIAGRAM 1/4

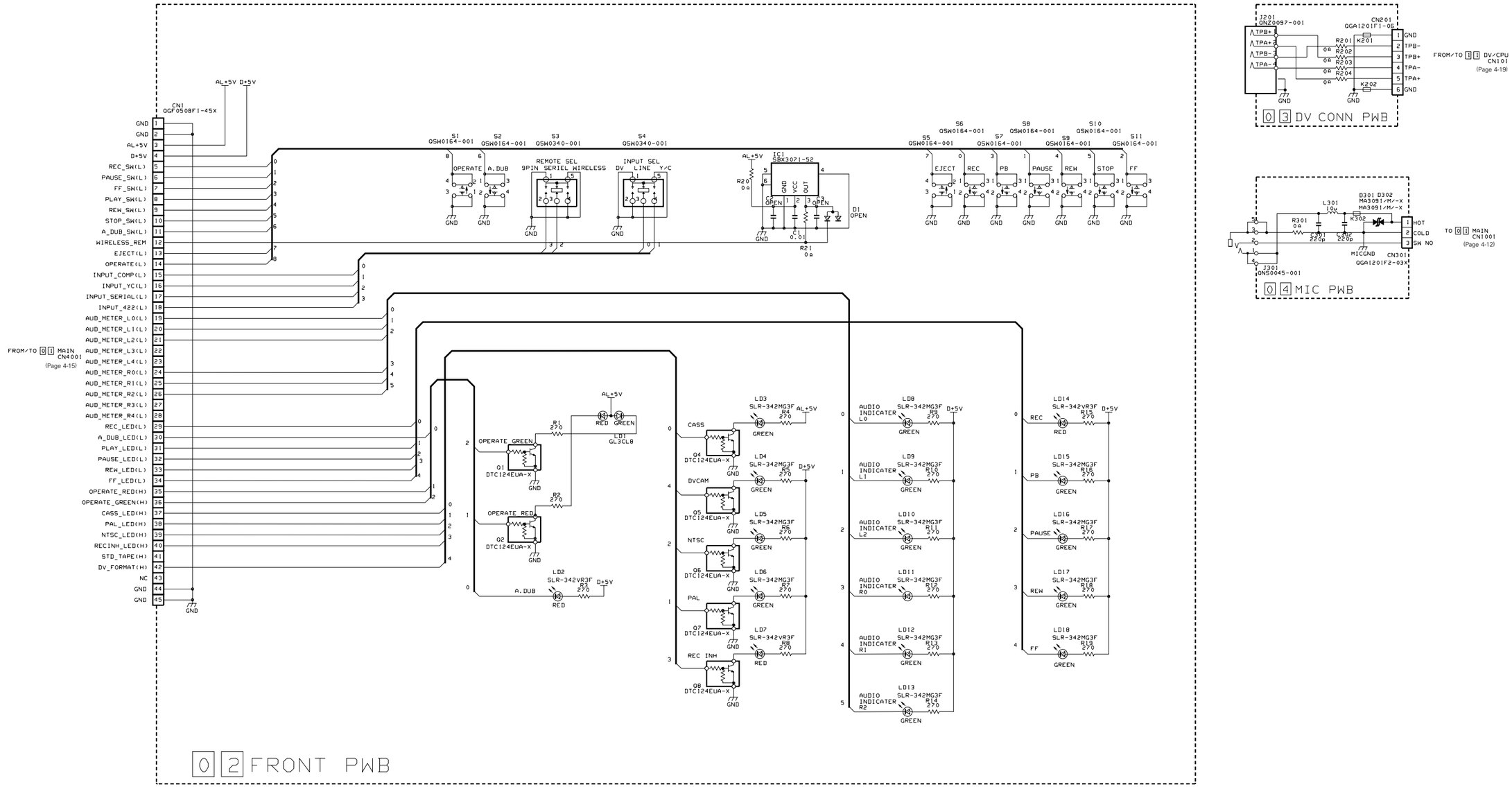



CN105
1 DRUM_FG
2 DRUM_PG
3 MGND
4 MDA_IN
5 MDA_CS
6 MDA_CLK
7 CAP_FG
8 CAP_BRK
9 MGND
10 HOUSING_IN
11 HOUSING_OUT
12 MECHA_REF
13 CAP_REF
14 DRUM_REF
15 REEL_FWD_CTL
16 REEL_BRK
17 REEL_REF
18 REEL_ECR
19 REEL_CURRENT
20 REEL_FG
21 MGND
22 CLN_SOL
23 MECHA_VM_CTL
24 HOUSING_CURRENT
25 NC
26 NC
TO 11 DV/CPU CN105 (Page 4-21)
CN116
20 R_FG_VCC(5V)
19 R_FG_OUT1
18 R_FG_GND
17 R_FG_OUT2
16 R_HE_U+
15 R_HE_GND
14 R_HE_U-
13 R_HE_V-
12 R_HE_V+
11 R_HE_W-
10 R_HE_VCC(5V)
9 R_HE_W+
8 R_COIL_W
7 R_COIL_W
6 R_COIL_U
5 R_COIL_U
4 R_COIL_V
3 R_COIL_V
2
1
TO 13 MECHA CN116 (Page 4-30)
IC21 BA6862FS-X
IC22.1 BA10358F-XE
IC22.2 BA10358F-XE
IC23.1 BA10393F-X
IC23.2 BA10393F-X
REG+5VM
REEL_PWR from DC/DC
REEL_ERR to DC/DC
HOUSING_CURRENT
REEL FG
MGND

— MDA/DC SCHEMATIC DIAGRAM 3/4 —

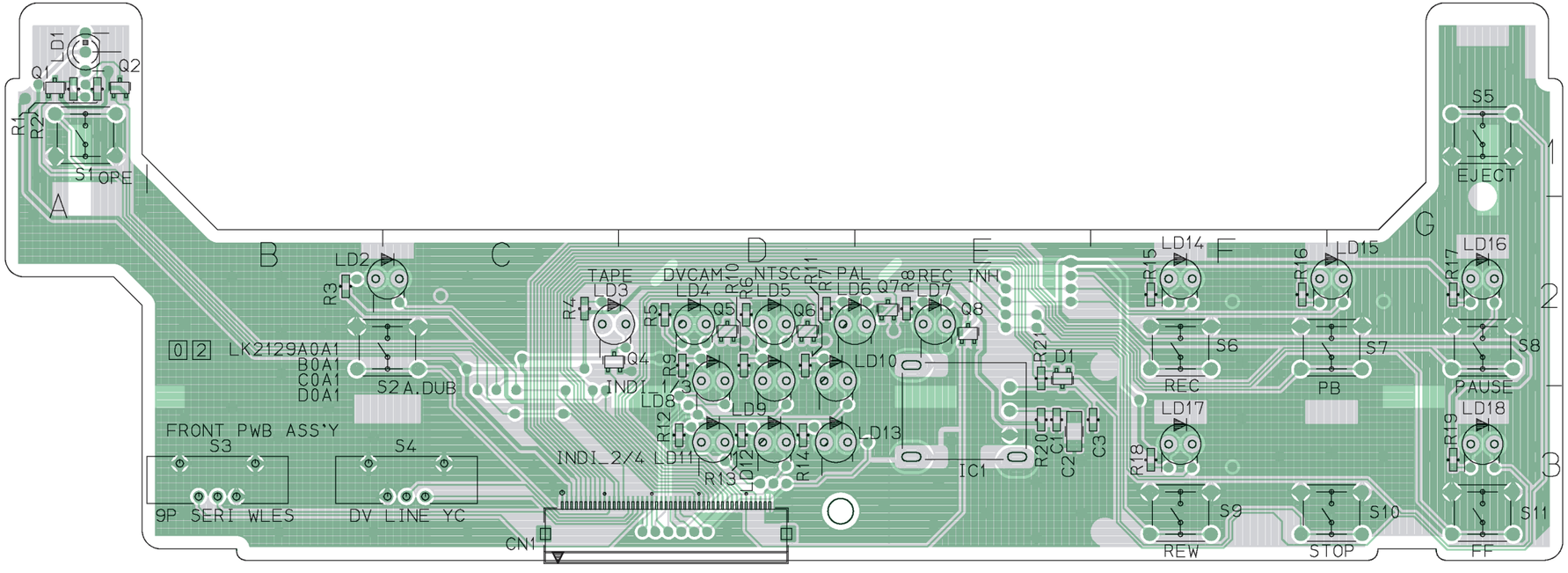



+12V
Q41
2SJ484WY-X
NAL24CN-220X
L41
22u
C413
0.22
R412
1.8k
(0.5%)
TL41
L42
22u
REG+5VM
C414
10
MGND
L43
22u
C415
10
DGND
R411
1k
Q43
2SC4097/QR/-X
R420
10
C409
1
C410
10
C412
10
D41
SFPB-72-W
R413
1.8k
(0.5%)
R414
1.2k
(0.5%)
R410
2.2k
Q44
2SA1577/QR/-X
C411
10
DGND
+12V
CN108
1 +12V
2 +5V
3 GND
4 +3.15V
5 +3.15V
6 +2.9V
7 +2.5V
8 GND
DGND
TO 1 1
DV/CPU
CN108
(Page 4-21)
Q42
2SJ484WY-X
Q45
2SC4097/QR/-X
L44
22u
C420
0.22
L45
22u
TL42
REG+3V
3.15V
C427
10/10
DGND
R416
1k
C416
1
R421
10
C417
10/10
D42
SFPB-72-W
C419
10/10
R417
5.6k
(0.5%)
R418
2.2k
(0.5%)
R419
33
Q46
2SA1577/QR/-X
C418
10/10
DGND
R406
4.7k
(0.5%)
R407
4.7k
(0.5%)
C401
220p
IC41
BA9743AFV-X
C405
1
R404
4.7K
(0.5%)
R405
3.3K
(0.5%)
C407
2.2
R401
10k
CT
RT
NON1
INV1
FB1
DT1
OUT1
GND
VREF
SCP
NON2
INV2
FB2
DT2
OUT2
VCC
C402
0.01
R402
0
R403
0
C404
0.01
R408
47k
(0.5%)
C408
1
R415
2.2k
R409
27k
(0.5%)
C403
4.7
DGND
IC42
MM1572KN-X
TL43
REG+2.9V
C421
10
VIN
GND
CONT
VO
NOISE
C423
10/10
C422
0.01
DGND
IC43
MM1572FN-X
TL44
REG+2.5V
C424
10/10
C426
10/10
C425
0.01
DGND
1 2 MDA/DC


CN1
QGF0508F1-45X
AL+5V
D+5V
GND
REC_SW(L)
PAUSE_SW(L)
FF_SW(L)
PLAY_SW(L)
REW_SW(L)
STOP_SW(L)
A_DUB_SW(L)
WIRELESS_REM
EJECT(L)
OPERATE(L)
INPUT_COMP(L)
INPUT_YC(L)
INPUT_SERIAL(L)
INPUT_422(L)
AUD_METER_L0(L)
AUD_METER_L1(L)
AUD_METER_L2(L)
AUD_METER_L3(L)
AUD_METER_L4(L)
AUD_METER_R0(L)
AUD_METER_R1(L)
AUD_METER_R2(L)
AUD_METER_R3(L)
AUD_METER_R4(L)
REC_LED(L)
A_DUB_LED(L)
PLAY_LED(L)
PAUSE_LED(L)
REW_LED(L)
FF_LED(L)
OPERATE_RED(H)
OPERATE_GREEN(H)
CASS_LED(H)
PAL_LED(H)
NTSC_LED(H)
RECINH_LED(H)
STD_TAPE(H)
DV_FORMAT(H)
NC
FROM/TO 0 1 MAIN CN4001
(Page 4-15)
S1 QSW0164-001
S2 QSW0164-001
S3 QSW0340-001
S4 QSW0340-001
OPERATE
A.DUB
REMOTE SEL
9PIN SERIEL WIRELESS
INPUT SEL
DV LINE Y/C
IC1 SBX3071-52
R20 0Ω
C1 0.01
D1 OPEN
R21 0Ω
S5 QSW0164-001
S6 QSW0164-001
S7 QSW0164-001
S8 QSW0164-001
S9 QSW0164-001
S10 QSW0164-001
S11 QSW0164-001
EJECT
REC
PB
PAUSE
REW
STOP
FF
LD1 GL3CL8
R1 270
R2 270
OPERATE_GREEN
OPERATE_RED
Q1 DTC124EUA-X
Q2 DTC124EUA-X
LD2 SLR-342VR3F
R3 270
A.DUB
LD3 SLR-342MG3F
R4 270
CASS
Q4 DTC124EUA-X
LD4 SLR-342MG3F
R5 270
DVCAM
Q5 DTC124EUA-X
LD5 SLR-342MG3F
R6 270
NTSC
Q6 DTC124EUA-X
LD6 SLR-342MG3F
R7 270
PAL
Q7 DTC124EUA-X
LD7 SLR-342VR3F
R8 270
REC INH
Q8 DTC124EUA-X
LD8 SLR-342MG3F
R9 270
AUDIO INDICATER L0
LD9 SLR-342MG3F
R10 270
AUDIO INDICATER L1
LD10 SLR-342MG3F
R11 270
AUDIO INDICATER L2
LD11 SLR-342MG3F
R12 270
AUDIO INDICATER R0
LD12 SLR-342MG3F
R13 270
AUDIO INDICATER R1
LD13 SLR-342MG3F
R14 270
AUDIO INDICATER R2
LD14 SLR-342VR3F
R15 270
REC
LD15 SLR-342MG3F
R16 270
PB
LD16 SLR-342MG3F
R17 270
PAUSE
LD17 SLR-342MG3F
R18 270
REW
LD18 SLR-342MG3F
R19 270
FF
0 2 FRONT PWB
J201 QNZ0097-001
CN201 QGA1201F1-06
TPB+
TPA+
TPB-
TPA-
R201 0Ω
R202 0Ω
R203 0Ω
R204 0Ω
K201
K202
FROM/TO 1 1 DV/CPU CN101
(Page 4-19)
0 3 DV CONN PWB
L301 10u
D301 D302 MA3091/M-X
K302
R301 0Ω
C301 220p
C302 220p
MICGND
CN301 QGA1201F2-03X
J301 QNS0045-001
HOT
COLD
SW NO
TO 0 1 MAIN CN1001
(Page 4-12)
0 4 MIC PWB

– FRONT CIRCUIT BOARD –

– SIDE A –



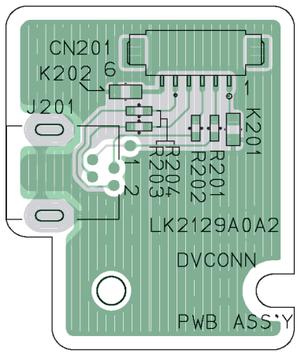
● **ADDRESS TABLE OF BOARD PARTS**
Each address may have an address error by one interval.

A-1C
Side — Y axis
X axis

IC1	A-3E	R14	A-3D	LD13	A-3D
		R15	A-2F	LD14	A-2F
Q1	A-1A	R16	A-2F	LD15	A-2F
Q2	A-1A	R17	A-2G	LD16	A-2G
Q4	A-2C	R18	A-3F	LD17	A-3F
Q5	A-2D	R19	A-3G	LD18	A-3G
Q6	A-2D	R20	A-3E		
Q7	A-2E	R21	A-3E	CN1	A-3C
Q8	A-2E				
		C1	A-3E	S1	A-1A
D1	A-3E	C2	A-3E	S2	A-2B
		C3	A-3F	S3	A-3B
R1	A-1A			S4	A-3B
R2	A-1A	LD1	A-1A	S5	A-1G
R3	A-2B	LD2	A-2B	S6	A-2F
R4	A-2C	LD3	A-2C	S7	A-2F
R5	A-2D	LD4	A-2D	S8	A-2G
R6	A-2D	LD5	A-2D	S9	A-3F
R7	A-2D	LD6	A-2D	S10	A-3F
R8	A-2E	LD7	A-2D	S11	A-3G
R9	A-2D	LD8	A-3D		
R10	A-2D	LD9	A-3D		
R11	A-2D	LD10	A-3D		
R12	A-3D	LD11	A-3D		
R13	A-3D	LD12	A-3D		

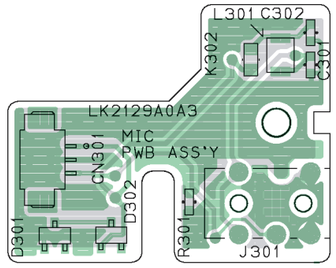
– DV CONN CIRCUIT BOARD –

– SIDE A –

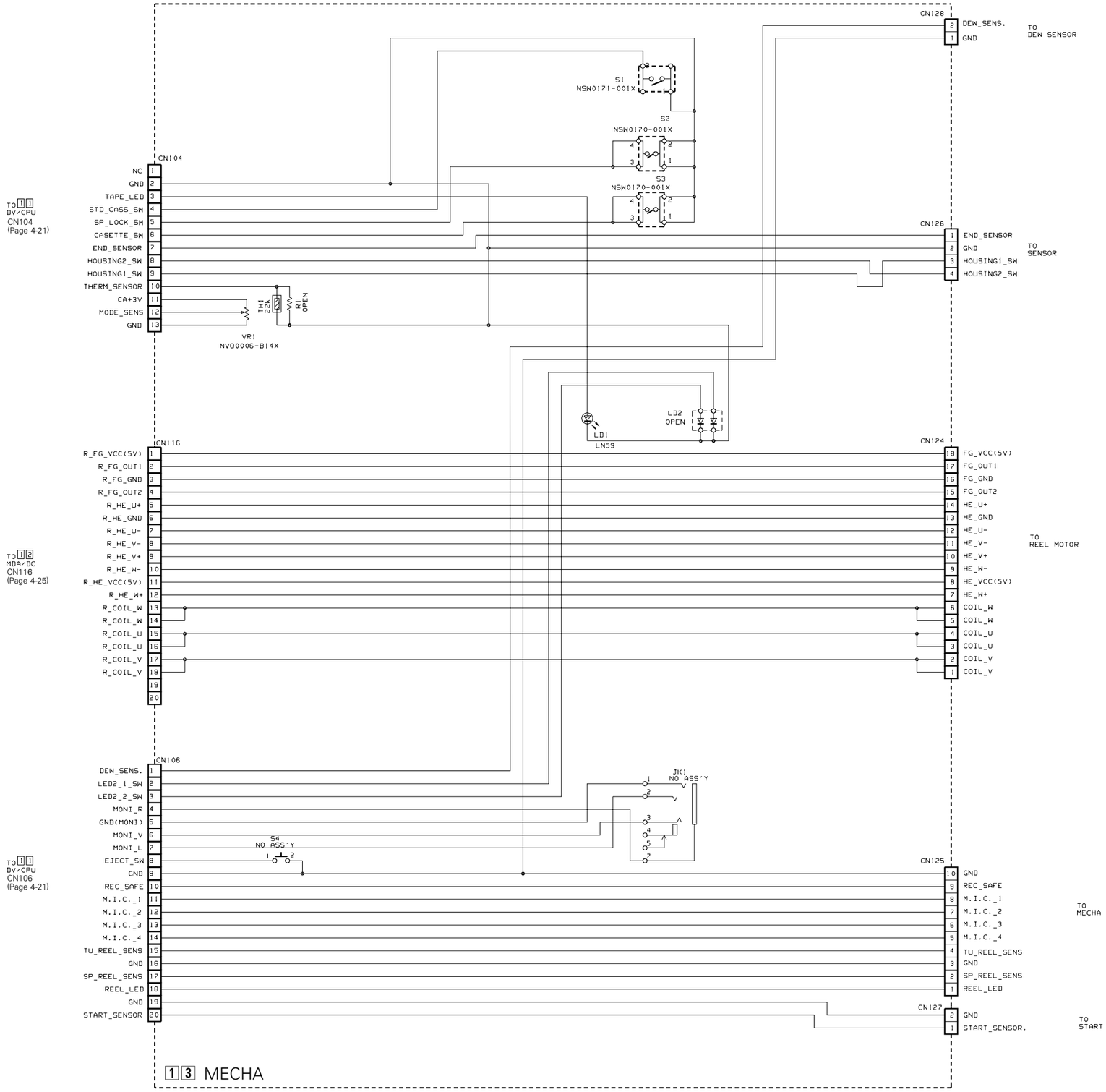


– MIC CIRCUIT BOARD –

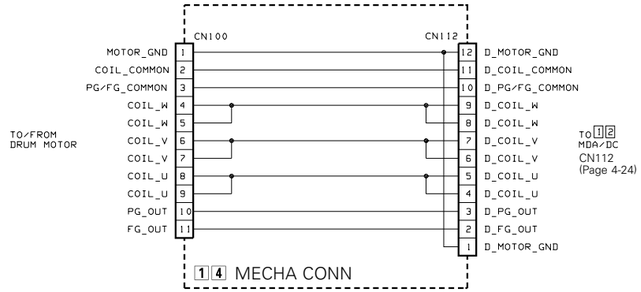
– SIDE A –



4.15 MECHA & MECHA CONN SCHEMATIC DIAGRAMS



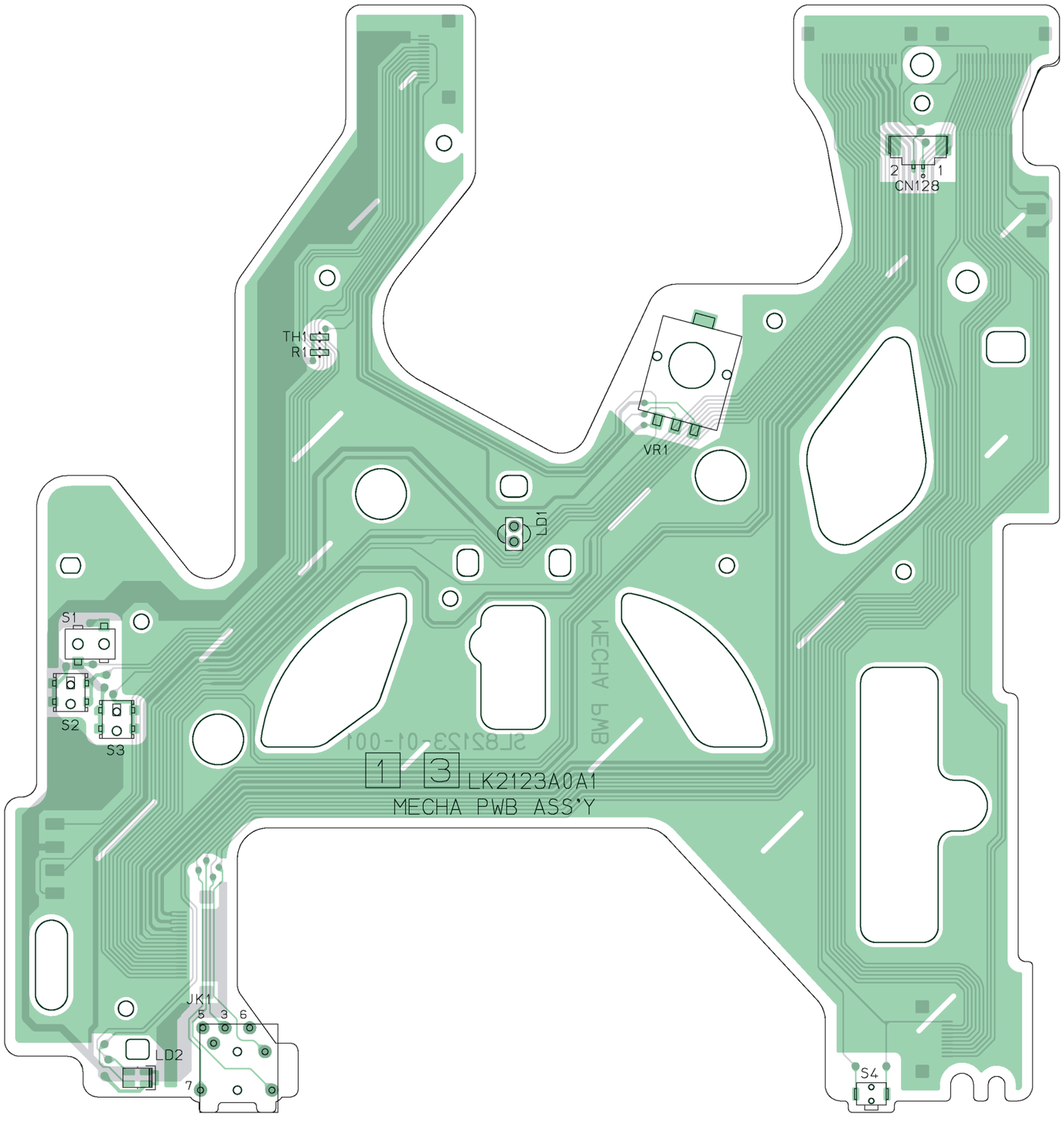
— MECHA CONN —



4.16 MECHA & MECHA CONN CIRCUIT BOARDS

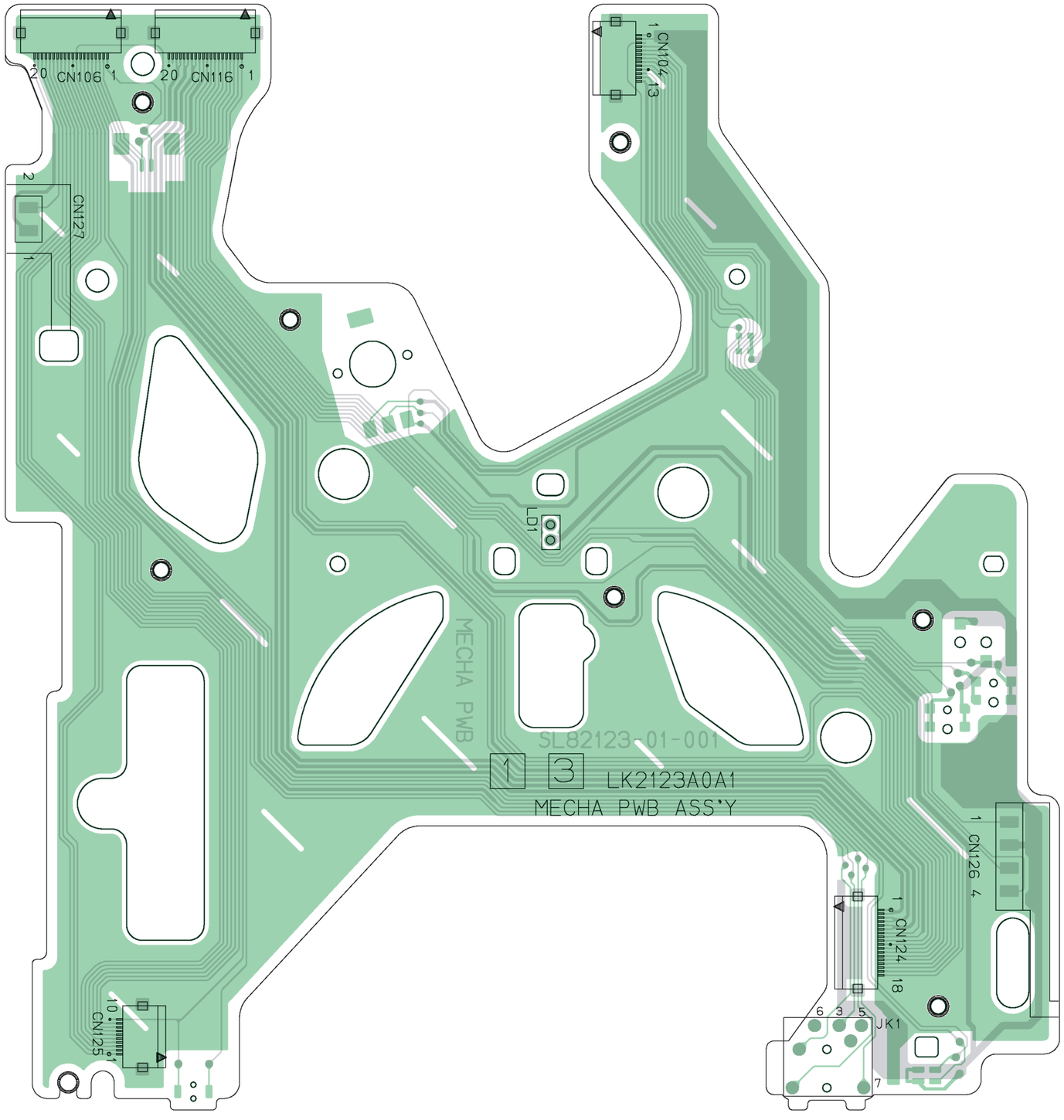
— MECHA CIRCUIT BOARD —

— SIDE A —



– MECHA CONN CIRCUIT BOARD –

– SIDE B –



– SIDE A –